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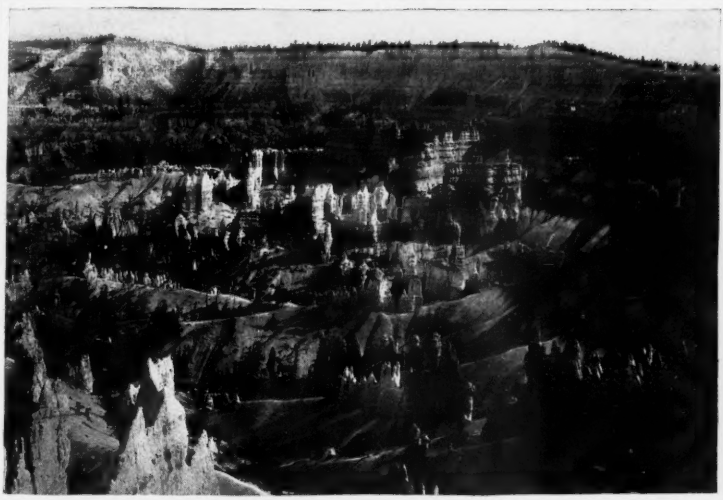

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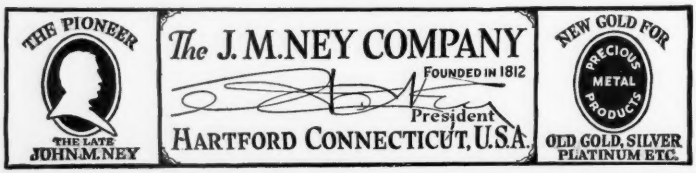

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THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., EDITOR

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OUR COVER THIS MONTH

Our Cover shows a marvelous picture of a region that not only ranks with the greatest of the world's natural wonders, but is, in fact, the only known spectacle of its kind. This is Bryce Canyon, and is situated in the heart of Sevier National Forest in Utah.

Erosion, which accomplishes such wonders in every part of the world, has performed mighty landscape changes here. The extent of this giant amphitheatre is about two miles wide and three miles long. A view from a good standpoint on its outer rim reveals an endless array of towers, spires, minarets, fortresses and steeples—singly and in groups—all bathed in gorgeous colors, brilliant pink predominating.

From the rim to the floor of this amazing formation is a sheer drop of eight hundred feet, and many of the giant monoliths to be seen exceed in height the tallest modern office buildings in the big cities. We are pleased to acknowledge our indebtedness to Dr. Victor H. Sears, formerly of Salt Lake City, now of New York, for sending us this interesting picture.

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THE
DENTAL DIGEST

Vol. XXXII MARCH, 1926 No. 3

A Review of Some of the Methods Employed In the Treatment of Suppurative Periodontoclasia from Ancient Times*

By Arthur H. Merritt, D.D.S., New York, N. Y.

(This summary represents the impression made by the paper upon one in the audience.)

In the early years of human history the priests were the sole practitioners of medicine. There was no knowledge of etiology or pathology of disease, and even the wisest believed that disease resulted from disobedience to the laws of God. In spite of the superstitions under which they labored it is probable that a certain amount of good followed treatment. The patients of those days had unbounded confidence in those to whom they went for treatment, and in consequence many were helped. The priest had at least one advantage over the physician of today, in that if the patient got well he claimed the credit, and if not, he laid the blame on God.

Reference to diseases of the supporting tissues of the teeth are as old as recorded history. In the Ebers papyrus, believed to have been written more than 1500 years B.C., and representing a compilation of medical writings extending back 3700 years B.C., there are many references to diseases of the teeth and gums with a long list of remedies to be used in their treatment. Among these are several for "strengthening the gums." One of these was compounded of incense, verdigris and green lead, in equal parts. It was to be rubbed on the teeth and gums.

Diseases of the periodontium were also common among the Chinese. In one of their most celebrated medical books, said to have been written twenty-seven centuries before the Christian era, there are two chapters relating to dentistry, the second of which deals with lesions affecting the gums. Among the numerous remedies recommended, such as mouth washes, massage, draughts, pills, etc., one especially deserves mention. This is the urine of a child, to be used as a mouth wash. Another remedy to be used for toothache, and interesting to us of the present, is one containing nearly two grains of arsenic. Repeated mention is

* Summary of an address delivered before the Pathodontia Section, First District Dental Society, New York, October 14, 1925.

made of "red and swollen gums that bleed easily" and of loose and "shaking teeth."

Many references to dental maladies are to be found among the writings of ancient Greece. Esculapius, who lived in the twelfth or thirteenth century B.C., and who came to be regarded by the Greeks as the god of medicine, is believed to have been among the first to practice teeth extraction through the use of instruments. These were made of lead and were used chiefly in the extraction of loose teeth.

Hippocrates (who is generally referred to as the "father of scientific medicine") Aristotle and Herodotus, all make frequent mention in their writings of dental maladies and their treatment.

Among the Romans, Celsus and Pliny, who were contemporaries in the first century A.D., have much to say about dental diseases and their treatment. Among those suggested were the following: "The ashes of stag's horn rubbed over loose and aching teeth makes them firm and soothes the pain." "The filth of the tail of a sheep rolled up in little balls and left to dry, and then reduced to powder and rubbed on the gums, is marvelously useful against the loosening of the teeth." Still other remedies recommended by these medical experts of the first century were the "dung of mice," the "dried livers of lizards," "earthworms cooked in oil," "vinegar in which earthworms and the root of mulberry have been boiled," and, lastly, it is gravely stated that "to strengthen unsteady teeth, rinse the mouth with a decoction made by boiling ten frogs in three sextaries of vinegar until the liquor is reduced to one-third." After considering these remarkable remedies, one may truly be thankful that one lives in the twentieth instead of the first century A. D.

From the first to the seventh centuries almost no progress seems to have been made in dentistry. In the ninth century an Arabian named Rhages recommended astringent mouth washes and sundry dentifrices "to strengthen loosened teeth." Similar suggestions were made by de Chauliac, a fourteenth century writer.

From this time onward, although an increasing number of writers refer to diseases of the gums, among them the celebrated Paracelsus, born in 1493, it was not until the days of Fauchard that anything bearing a resemblance to dentistry made its appearance.

Fauchard was born in Brittany about 1690. He has often been referred to as the "father of scientific dentistry," and in many respects he seems to have been in advance of his generation. In 1728 he published his celebrated book on dentistry, which was highly regarded by his contemporaries. It was translated into German in 1733, and a second and a third French edition were published in 1746 and 1786. In one respect Fauchard does not seem to have made much progress, for in his book the following mouth wash is seriously recommended.

It consists of rinsing the mouth, morning and evening, with a few teaspoonfuls of one's own urine immediately after it is emitted, always providing that the individual is not ill. One is to hold it in the mouth for some time, and the practice ought to be continued.

This, briefly, is an outline of some of the measures employed in the past for the treatment of so-called loose teeth. In the fifteenth century B.C. it will be noted that human urine was being recommended as a mouth wash, and again in the seventeenth century A.D., after a lapse of more than 3,000 years, the same recommendations were being made. It will also be noted that all attempts at treatment were therapeutic in nature. Nowhere is there any mention of the possible value of surgical treatment.

Such was the state of affairs in 1867 when John M. Riggs made the statement that what was then called "scurvy of the gums" could be cured, and he exhibited patients whom he had successfully treated. This is the first time that the statement had ever been made that pyorrhea could be cured, and that its treatment was surgical.

Riggs was a close friend of Horace Wells, who, having seen laughing gas administered at a public entertainment in Hartford, Connecticut, conceived the possibility of its use in the extraction of teeth. On the 18th of December, 1844, Wells arranged with the exhibitor to take the gas while Riggs extracted a tooth without Wells' knowledge and without causing pain, making this the first surgical operation ever performed under an anesthetic.

Up to this time little or no success had been achieved in the treatment of so-called scurvy of the gums. Riggs devised a set of six instruments and with them achieved a considerable measure of success in treating advanced cases. Dr. Levi C. Taylor, who was associated with Dr. Riggs, told the speaker that the operation, as performed by Riggs, was exceedingly painful and that after the introduction of chloroform Riggs anesthetized the patients in practically all cases. His treatment consisted in large measure of a very thorough curettage of the margins of the alveolar process to the point to which the disease had progressed. This resulted in a very marked reaction and a very considerable recession of the gums. Riggs was careful also to remove all deposits upon the roots of the teeth. He apparently did not give traumatic occlusion any consideration.

The results which Riggs achieved were remarkable and there can be no doubt that he made a very considerable impression upon his generation. He was given the honorary degree of D.D.S. in 1876, and in 1881 he went to Europe, where he was the guest of many of the celebrated dentists of his time.

In spite of the success achieved by Dr. Riggs the profession as a whole made very little progress in the treatment of scurvy of the gums.

A few men, however, followed his practice more or less closely. Among these was Dr. W. J. Younger, who graduated in medicine in San Francisco in 1862 and a few years later began the practice of dentistry, specializing in the treatment of pyorrhea alveolaris. He achieved a large measure of success, even when judged by the standards of the present day. He was probably the first man in history to call attention to the fact that proper treatment would result in the obliteration of pus pockets through the reattachment of the soft tissue to the exposed roots.

Confused and absurd theories of the etiology and treatment of pyorrhea continued to flourish. Some believed it to be hereditary, and some a form of catarrh. Others again believed that it was infectious, while others clung to the belief that it was caused by uric acid. The theory was that the salts of calcium were suspended in the blood and deposited in certain joints because of a relatively high acidity of the blood at such points. It was thought that the pericemental attachment formed such a joint and the use of the teeth caused a relative acidity, resulting in the deposit of the urates of calcium. Those who held these views represented a considerable part of the dental profession twenty-five years ago. All forms of lithias were recommended in treatment, but their success was probably not greater than that of the ancients, whose dependence was placed upon the use of human urine.

Here and there throughout the United States a small group of dentists had arisen who had mastered the principles laid down by Riggs and Younger. They were generally called "pyorrhea specialists." A number of these banded together for mutual improvement, and in 1914 the American Academy of Periodontology was formed in Cleveland. Periodontia may be said to have had its birth with the formation of this association. Its work during the last decade is the equal of any in dentistry. It has brought order out of chaos by the creation of a scientific nomenclature. It has arranged the etiologic factors of periodontoclasia in the order of their importance. Cases formerly thought to be incurable have yielded to treatment. The most marked advance has been made in the study of the histology and pathology of the periodontal tissues.

One of the most careful workers in this field is Harold K. Box, who, following a study of the tissues in health and disease, discovered that certain pathological changes take place in the pericementum before there is any clinical evidence of such changes. There is formed in the pericementum a fibrous tissue which takes the place of normal tissue and which he has called "rarefying pericementitis fibrosa," and which he believes to be largely caused by occlusal trauma. Noyes has called attention to somewhat similar phenomena.

Most of the men engaged in periodontia today are agreed that treatment is surgical and not therapeutic.

Periodontoclasia may be defined as "a more or less progressive resorption of the alveolar process with a coincidental recession of the gum tissue," though recession usually does not keep pace with alveolar absorption. The speaker believes that the requirement for success is a thorough removal from the roots of all calculary deposits plus the dead pericementum, and that unless this is done thoroughly, only partial success will attend one's efforts. When this is thoroughly done, the most gratifying results follow, such as can be obtained in no other way.

We are all familiar with the part played by traumatic occlusion and recognize it as an important etiologic factor. Younger and Riggs, however, seem to have paid little attention to it, yet they appeared to have achieved a considerable measure of success.

There is a tendency on the part of some to over-operate. Some recommend that the gum tissue be anesthetized and cut back slightly below the level of the process at the point to which it has resorbed, and that the margin be curetted. This is open to serious objection. It causes a certain amount of disfigurement and leaves the teeth exposed to thermal shock, which may result in the death of the tooth or teeth. If it is possible to bring about reattachment—and there can be no doubt that this is possible—only those cases should be treated by gum resection which will not yield to curettage of the exposed root surface to the depth of the pyorrhea pocket.

The speaker believes that a considerable advance will still be made in periodontia. Little is known at present about the predisposing factors of periodontoclasia. That there are such factors, every man engaged in this form of practice must have observed. There are probably many cases in which there is some predisposing cause of which we know little. It is believed that the future will throw much light on these predisposing causes.

Advance will also be made in prevention. Most of the advanced cases which present for treatment have reached this stage because they did not have the necessary preventive treatment in the beginning. The dental profession as a whole should be taught to appreciate the importance of recognizing the early symptoms of periodontoclasia. There is probably no case that cannot be cured at some time in its progress, but it is also true that every case may, unless treated early, reach an incurable stage.

SUMMARY OF DISCUSSION*

By J. Oppie McCall, D.D.S., New York, N. Y.

I should like to emphasize one or two things which Dr. Merritt has told you. He mentioned that Dr. Harold Box has discovered and brought into greater prominence than any other writer the fact that in the majority of cases of periodontoclasia the initial lesion occurs in the pericementum and makes a considerable headway before the signs of its presence are visible on the surface of the gingival tissue or in a radiogram, or are recognizable by any other means of diagnosis which we possess at the present time. The significance of this knowledge is that we are more than ever bound to give careful attention to the earliest signs of disease. There was a time when dentists looked into mouths, saw that the gums were retracting and the cementum was exposed, but that the teeth were not loose and, in the average case, the gum tissue was pink and apparently healthy. There was no pus and there were no deposits of tartar, such as we commonly see in cases of ordinary inflammation and in more advanced cases of periodontal disease. Such cases have been commonly regarded as being non-pathologic. In spite of all the ideas which have been advanced from the earliest days the dental profession has fallen back on the idea of deposits as the principal cause of diseases of the gingival tissues. So, when dentists saw the gum drawing back and knew something was going on, they looked for deposits of calculus and, not finding them in the ordinary form, felt more or less confused and undecided as to what was happening and what ought to be done about it.

It is my observation and belief that in this type of case, which Box has shown to be simply a fairly advanced form of *rarefying pericementitis fibrosa,* the activating cause is traumatic occlusion.

We have at least two known causes of periodontal disease. We are no longer limited to deposits but recognize traumatic occlusion also. In the feeling of uncertainty which has caught many dentists in its toils, and which has led to the belief that the deposits are the only tangible cause of disease, dentists have forgotten that traumatic occlusion is nearly always present in cases which show pronounced disturbance of the periodontal tissues. When a dentist sees these cases in the early stages, where there is no inflammation and no pus and the teeth are still firm, he should at once institute measures for the correction of the traumatic occlusion and show the patient how to stimulate the gums to a point where the infection can be kept under control.

* This summary represents the impression made by the discussion upon one in the audience.

SUMMARY OF DISCUSSION*

By M. L. Rhein, D.D.S., New York, N. Y.

Dr. Rhein began by saying that in the interval between the close of Dr. Rigg's work and 1914 a great deal of work upon the subject of pyorrhea was done, some of it by men in New York and some of it by men elsewhere. He spoke feelingly of Dr. W. H. Atkinson in this connection and said that the character of work done by the group was well exemplified in the publications by Dr. Eugene V. Talbot of Chicago.

Passing from the history of the disease to its etiology, he asked his hearers to remember that a tooth is situated at the terminals of the enormous capillary system which anastomoses so freely in this section and which, at the gingival border, turns into the venous circulation. The heart of the matter has been stated when one speaks of preventive treatment of conditions such as have been described. Such treatment means that this capillary circulation, when it is reduced to the last little thread of arterioles, shall be allowed to pass unerringly into the venous system. Such conditions have been brought to pass by proper instruction in home prophylaxis. That means that the story of the massage of the gingival tissues has been told in such a way that it can be understood and applied, and that is the secret of prevention.

What happens in cases where we have no form of malnutrition but just a gradual aging of the patient with a lack of proper home prophylaxis? We then have evidence of a gradual obliteration of these capillary terminals. Such conditions present various types, which means that these tissues have failed to receive sufficient nutrition and consequently the cells have perished. So we get a certain form of cell necrosis. These findings are well known; they are not new.

If we analyze the care of the conditions that produce this trouble, one of the most unfortunate things that have happened in dentistry is to say that there is such a thing as a periodontist. It is unfortunate because, underlying all these conditions, there is something that embraces the circulation in every direction. It is not confined to the margin of the gingivae or the periosteum. It involves the entire arterial circulation and the condition of the pulp of the teeth and the periosteum, which it is almost impossible to separate from the pericementum. It is impossible to isolate the disease around the tooth as if it were a separate and different thing and then handle it separately.

I take issue with the statements as to the ability to cure periodontoclasia. What do we mean by periodontoclasia? We have a condition of this kind that comes from neglect in a person who is fairly

* This summary represents the impression made by the discussion upon one in the audience.

healthy physiologically. In these cases I am in agreement with Dr. Merritt, but these cases are the simple things in dentistry, and even in such cases the careful surgeon will go over the entire field. If his treatment is thorough, that is the end of the disease. I do not term that true periodontoclasia because we have no bad symptoms.

I have never seen a case where periodontoclasia was caused by traumatic occlusion in a person of good normal health. I have seen and watched traumatic occlusion in its most abhorrent forms and failed to find one case of that kind. In different forms of metastasis and types of malnutrition a tooth in traumatic occlusion will be first mastered by the attack because it is the most vulnerable point.

All these different types of malnutrition leave their first effects upon the capillary circulation at the gingivae. The effects are visible there first because it is the longest line of capillary circulation in the human body. The different conditions show different appearances, due entirely to the way in which the physiological condition has been interfered with. I have made over a hundred diagnoses of pulmonary tuberculosis because it showed in the mouth, when the physician had no inkling of its presence.

North Philadelphia Association of Dental Surgeons

At the annual meeting and banquet of the North Philadelphia Association of Dental Surgeons held at the Majestic Hotel, Philadelphia, Pa., on January 13, 1926, the following officers were elected for the ensuing year:

President, Dr. Elmer E. Henry; Vice-President, Dr. William T. Wyckoff; Secretary, Dr. Warren Matlack; Treasurer, Dr. John H. Yearick; Editor, Dr. J. Iredell Wyckoff; Delegate to the Philadelphia Dental Society, Dr. Leon A. Halpern; Alternate to the Philadelphia Dental Society, Dr. Wm. C. T. Bauerle.

John H. Drexler, D.D.S., died on January 17, 1926, at Baltimore, Md., at the age of sixty-one years. Dr. Drexler was graduated from the Pennsylvania Dental College, Philadelphia, in 1895 and practiced his profession in Frankford, Philadelphia, until 1920 when he moved to Miami, Florida, where he continued his practice for three years and then retired. He was an active member of the North Philadelphia Association of Dental Surgeons and was its President in 1915 and 1926.

Occlusion—The Fundamental Element In Dental Science

By Paul R. Stillman, D.D.S., F.A.C.D., F.A.A.P., New York, N. Y.

(Continued from February)

The second question which we have propounded is:

Is It Necessary That Visible Disease Be Present to Confirm a Diagnosis of Traumatic Occlusion?

This question carries with it, by assumption, another question which may be stated as follows: Shall traumatic occlusion be corrected when discovered, in the absence of visible symptoms of disease?

There has been a time in the past when the answer to the former question would have been "yes." In other words, we have not until recently held that an occlusal condition was traumatic until it had produced incipient disease, recognizable clinically. For some years, however, I have seen occasional cases in which no disease was present, as judged by standards then available, and yet exhibiting to me definite evidence of abnormality and indications that disease would ensue. In such cases I have adjusted the occlusal relations and felt justified in doing so, because my experience has shown me how inevitable it is that disease will show itself later. My conception of oral prophylaxis leads me to endeavor to remove all possible factors from the mouth which have shown themselves in other cases to be definitely pathogenic. I consider this form of treatment to have the greatest influence in the prevention of disease of any other single measure in oral prophylaxis.

When we study the recent work of Harold Keith Box on rarefying pericementitis fibrosa, we find histologic evidence of disease existing long before any clinical symptoms are observable. The process usually precedes infection in the gingiva; it precedes tooth mobility; neither is it discernible in the radiograph. We thus have revealed to us a truly startling state of affairs and one which leads us in search of a new diagnostic test. Either we must devise some means by which rarefying pericementitis fibrosa may be detected in the mouth at an earlier stage than is now possible or we must remove its etiologic factors as far as we can determine them before any visible disease has manifested itself. When we realize that the most prominent, although perhaps not the sole, cause of rarefying pericementitis fibrosa is traumatic occlusion, we feel amply justified in attempting to balance the occlusal relations wherever we find so marked a lack of harmony as to make it obvious that the patient cannot correct it by ordinary occlusal wear.

While it is a fact, as I have just pointed out, that we cannot detect rarefying pericementitis fibrosa by any clinical test at present available, we have, however, indications which point to its presence at a fairly early stage in its development. These indications have been collected by Dr. Box and are known as *The Twenty Signs of Incipient Periodontal Disease.** These have already been published, but for your edification I will enumerate them. (Practically all are symptomatic of traumatic occlusion.)

Sign No. 1. Traumatic Crescent. A crescent-shaped zone of abnormally deep color, never extending completely across the gingival border of the tooth and being confined as a rule to a segment about 1/6 of the circumference of the root. It may be superimposed over a

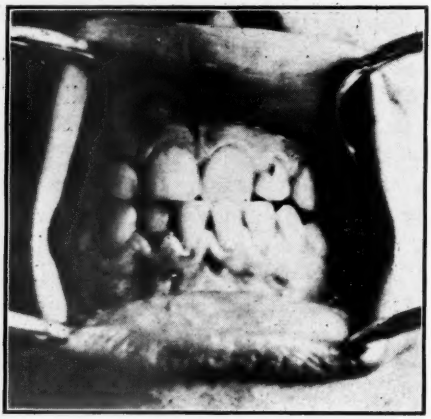


FIG. 1

Sign No. 1. Traumatic Crescent. Fig. 1 shows a traumatic crescent on the gingival margin of the right lower central incisor.

mild generalized gingivitis, but frequently occurs in an otherwise healthy gingiva. It is considered to be a sign of a localized circulatory disturbance in the pericementum and is, as a rule, associated with traumatic occlusion.

Sign No. 2. Congestion of the Marginal Gingiva. This zone of congestion extends completely across the gingival border of the tooth. It is regarded as a sign of generalized pericemental circulatory disturbance. It is commonly found in cases exhibiting an end-to-end occlusion.

* Bulletin No. 7—*Studies in Periodontal Pathology*—Canadian Dental Research Foundation.

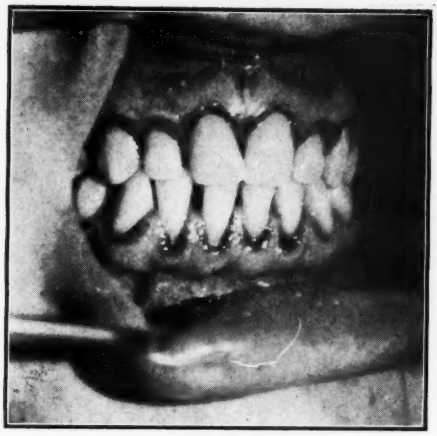


FIG. 2

Sign No. 2. Congestion of the Marginal Gingiva. The entire marginal gingiva is congested. The end-to-end occlusion is not frequently found in youth. Occlusal wear would produce the end-to-end effect in this case, depending upon the resistance of the periodontium to traumatic occlusion, which was undoubtedly present when this photograph was taken.

Sign No. 3. Mobility No. 1. This is a degree of mobility so slight as to escape casual observation. It requires careful manipulation and the application of considerable digital pressure, in many instances, for its detection. It seems to be associated with rarefying pericementitis fibrosa, since in this disease varying numbers of the pericemental fibers have been replaced by this soft, yielding, new tissue.

FIG. 3

Sign No. 3. Mobility No. 1. It is evident that motion cannot be photographed in a single exposure, therefore no illustration of mobility can be given.

Sign No. 4. Recession of the Marginal Gingival Line. Taking the amelo-cemental junction as a fixed landmark, it is often found that the gingival margin shows an altered relationship to this line. In the average case the margin of the gingiva is approximately two millimeters above the amelo-cemental line. Recession of the gingival margin toward this line is usually indicative of alveolar crest resorption. For example, a recession of the marginal gingiva which just exposes the amelo-cemental line will probably indicate a crest resorption of two millimeters. Exposure of the cementum will indicate an increased alveolar resorption of a corresponding degree.

FIG. 4

Sign No. 4. Recession of the Marginal Gingival Line. There is more or less recession of all the labial gingiva here illustrated. Note the synthetic fillings in the right upper lateral incisor, the left lower central incisor and the left lower lateral incisor. Labial cervical caries always occurs in the presence of a marginal gingivitis. This phenomenon is also a symptom in approximal caries of the bicuspids and molars. The coincidence should make dentists pause and think of the value of maintaining the circulation in the marginal gingiva.

FIG. 5

Sign No. 5. Asymmetrical Recession of the Marginal Gingival Line. The lower lateral incisors show marked disturbance of the normal curve of the marginal gingiva.

Sign No. 5. Asymmetrical Recession of the Marginal Gingival Line. In many cases recession of the gingival margin involves only part of the normal gingival line. This may occur in the median line of the tooth or on either side of this line, thus disturbing the normal symmetry of the curve of the gingival margin. It indicates a localized resorption of the alveolar crest.

Sign No. 6. Recession of the Alveolar Crest Line. The crest of the alveolar process in the average normal case is approximately two millimeters below the amelo-cemental line, which has been adopted as

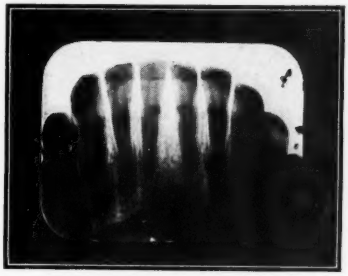


FIG. 6

Sign No. 6. Recession of the Alveolar Crest Line. Note how the alveolar crest line dips down between the two central incisors. The amelo-cemental junction is clearly distinguishable on these teeth.

a fixed landmark. Disturbance of the normal relationship between these lines is a manifestation of recession of the alveolar crest line. This may usually be detected by careful study of the radiograph.

FIG. 7

Sign No. 7. Increased Radiolucency of the Alveolar Crest or Lamina Dura. The radiograph illustrates radiolucency of the crest of the alveolar process. It shows also resorption of the crest line.

Sign No. 7. Increased Radiolucency of the Alveolar Crest or Lamina Dura. This is an indication of a rarefaction of the alveolar bone in these locations.

Sign No. 8. Disturbance of Normal Contour of the Alveolar Crest. Frequently the alveolar crest presents in the radiograph a slightly eroded appearance disturbing its characteristic normal symmetry. This is due to a localized resorption of the alveolar crest.

FIG. 8

Sign No. 8. Disturbance of Normal Contour of the Alveolar Crest. The crest of the alveolar may be seen in Fig. 7, showing a ragged border.

Sign No. 9. Increased Widening of the Pericemental Space. When complete rarefaction of the lamina dura takes place, there is exhibited in the radiograph, in certain zones, a definite widening of the line which represents the pericemental space.

FIG. 9

Sign No. 9. Increased Widening of the Pericemental Space. (This radiograph is one of Dr. Box's.) The interproximal alveolar process illustrates the widening of the space between the lateral and central incisors.

Sign No. 10. Mobility No. 2. When the lamina dura is destroyed to any extent about the tooth, there is, of course, the tooth with the remaining alveolar wall. This naturally permits an increased mobility beyond the normal and beyond that designated as *Mobility No. 1.*

FIG. 10

Sign No. 10. Mobility No. 2. No illustration can be made of motion.

Sign No. 11. Shortening of the Crest of the Septal Gingiva. When an appreciable resorption of the septal alveolar crest has occurred, there

will usually take place a concomitant dropping away of the septal gingiva. This will be evidenced clinically by the appearance of spaces between the teeth, which were formerly filled with gingival tissues.

FIG. 11

Sign No. 11. Shortening of the Crest of the Septal Gingiva. The papilla between teeth which is free from disease fills the interproximal space and has a sharp-pointed apex. The lower incisal gingival papilla apex has been lost in this location.

Sign No. 12. Linear Depressions in the Alveolar Mucosa. These lines are often better shown on models than in the mouth, but may usually be demonstrated in the mouth if the light is properly directed and the mucous membrane is dried. They extend parallel to the long

FIG. 12

Sign No. 12. Linear Depressions in the Alveolar Mucosa. As Box has observed, these lines are difficult to see. This photoprint shows the lines anterior to one cuspid and posterior to the other. In fact, the distal line near the gold filling appears to be two parallel lines. This is a clinical anomaly.

axis of the root and overlie the septal bone. These depression lines are to be differentiated from the normal depressions between the alveoli of adjoining teeth. These lines are characterized by being sharply drawn.

52 Vanderbilt Avenue.

(*To be continued*)

Cavity Preparation for Porcelain Inlays*

By W. J. Meier, D.D.S., New York, N. Y.

The first principle of cavity formation shown in this clinic is that the cavity surfaces should be as nearly as possible at right angles to each other. In a properly formed cavity a very small amount of "draw" will permit an impression to be withdrawn without distortion, and wherever an impression can be withdrawn without distortion, a porcelain inlay can be inserted.

If the base of the cavity is at right angles to the line of stress to which the inlay will be subjected, there is nothing to knock the inlay out of position. Under such conditions about the only retention necessary is what is required to hold the weight of the inlay. Dentists who have had to remove a properly laid inlay will remember that it has been very difficult to do this without destroying the tooth.

Probably many inlays have been failures from the point of view of color, because the cavity formation has been such as to carry the porcelain to a feather edge. If the dentist cuts bravely into the tooth and carries the cavity margin back to where the enamel and porcelain will form a butt joint, there will be no difficulty of this sort.

I believe that porcelain inlays can be placed in any cavities which can be filled with gold and that if the proper technic is followed they will prove just as durable under the stress of mastication. In many cavities the placing of a porcelain inlay requires the sacrifice of less tooth material than would be lost if a gold filling were to be placed in the same cavity.

The two outstanding advantages of porcelain are the esthetic effects which it makes possible and the protection it affords to the pulp from thermal shock.

This clinic was illustrated by the use of a series of interesting and instructive models which cannot well be produced here.

510 Madison Avenue.

* From a clinic given before the First District Dental Society, New York, December, 1925.

Pinledge Bridge Attachment for Anterior Teeth*

By Henry Wasserman, D.D.S., New York, N. Y.

(A complete description of this technic appeared in *The Dental Cosmos* for December, 1923. This description is abbreviated from that publication.)

The pinledge method of attachment yields the greatest security of anchorage with the least destruction of tooth material, is especially adaptable to vital teeth, does not endanger the pulp and will not expose gold, when properly constructed.

When the teeth are in normal occlusion, there should be a space between them sufficient to allow for the finished attachment, which is 24-gauge. If such a space is not present, it may be made by grinding.

Technic of Preparation of the Tooth

The preparation of the tooth to receive the pinledge is made with four instruments (Fig. 1). For simplicity, the preparation is divided into four stages, one instrument being used in each stage.

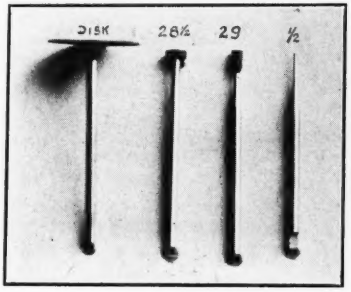


Fig. 1

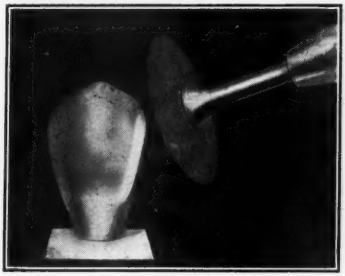


Fig. 2

In the first stage, with a separating disk, the linguo-proximal angle of the tooth adjacent to the space to be bridged is slightly flattened (Fig. 2). This facilitates bringing the matrix gold around proximally for the attachment of the pontic and also the removal of the finished matrix without distortion.

With a new mounted carborundum stone, No. 28½, two parallel notches are cut across the lingual surface on two lines which divide

* From a clinic presented at the December meeting, First District Dental Society, New York, 1925.

the surface into thirds (Fig. 3), this being the second stage. The notch near the cervix is called the cervical notch, and the one nearer the incisal surface is called the incisal notch. These notches are cut just through the enamel, barely into the dentine.

In the third stage, with a new cylindrical mounted stone, No. 29, placed in the center of the cervical notch with its base toward the cervix, grinding toward the pulp, a vertical groove is cut. This operation is repeated in two places in the incisal notch, making one groove near the mesio-lingual angle and one near the disto-lingual angle (Fig. 4). The width of these grooves is determined by the width of the stone, and the depth should be about one-half to two-thirds that of the stone, measuring from the lingual surface toward the pulp. These grooves form ledges and should be parallel.

In the final stage, with a four-sided spear drill, which is made by

Fig. 3

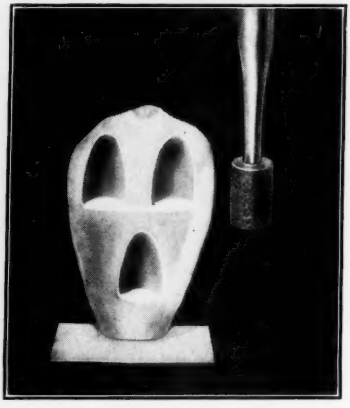


Fig. 4

holding a No. ½ round bur against a smooth stone, the pin openings are made (Fig. 5). In this manner we have one opening in each ledge near its center far enough from the enamel on the one side of the tooth to avoid chipping or splintering, and from the pulp on the other side to leave an ample margin of safety. These openings should be from 1/16 to 3/32 of an inch deep according to the individual tooth.

Technic of Construction of Pinledge

Three metals, matrix gold, wire and solder, are used in the construction of the pinledge. A piece of this matrix gold, which is 24-k. (pure), 1/1000 of an inch in thickness, or pure platinum of the same

thickness, is cut a little larger than the lingual surface of the tooth and annealed.

The piece of gold is placed over the lingual surface of the tooth, care being taken that the entire surface is covered and pressed firmly against the tooth with the ball of the index finger. The gold is strapped down with a piece of bibulous paper or, better still, the outside of a cotton roll and burnished with an egg-shaped burnisher.

The gold is removed from the tooth and the surplus trimmed away, leaving a narrow margin of excess, then annealed and placed back upon the tooth and burnished with a flattened ball burnisher.

The gold is again removed, annealed, placed back upon the tooth and the burnishing is completed with an inverted cone burnisher.

For the pins, 24-gauge platinum-iridium or noxidium wire is used. To make a pin, the bur edge of the wire is taken away with a metal file, and with a pair of small flat-nosed pliers the wire is bent at right angles, making the pins slightly longer than the depth of the pin openings. About 1/32 of an inch beyond the bend it is cut off, leaving the elbow by which to handle it and to secure it in the solder.

The matrix, which is in position upon the tooth, is punctured over the pin openings with a sharp-pointed instrument made from an old broach. The pins are put through the small openings into place. One end of a piece of impression compound stick is slightly warmed and pressed firmly over the matrix and pins, care being taken that the margins are all covered.

The compound is cooled and removed, the matrix and pins thus being removed together (Fig. 6). The matrix and pins are invested in soldering investment material. After the investment has set, it is placed into warm (not hot) water and the impression compound is peeled off.

To finish the attachment, two grades of solder, 20-k. and 22-k., are used. The case is well heated and fluxed and three small triangular pieces of the 20-k. solder are placed over the little elbows of the pins. With a gentle yellowish flame the little pieces are flowed over the ends of the pins.

Then one piece of the 22-k. solder of approximately the same shape as and a little larger than the lingual surface of the matrix is placed over the case, and with the same gentle flame the solder is sweated down, the finished pinledge being thus made slightly thicker than the average solder, thereby making a light but very strong attachment.

The soldering process is preferable to casting in the described technic because the thickness of the finished product can be far better controlled.

Figure 7 shows the principles of preparation and the under surface of the pinledge.

The pinledge preparation and construction just described hold good

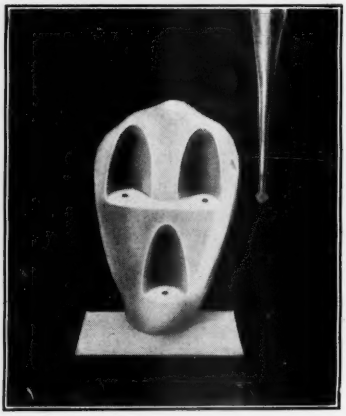


Fig. 5

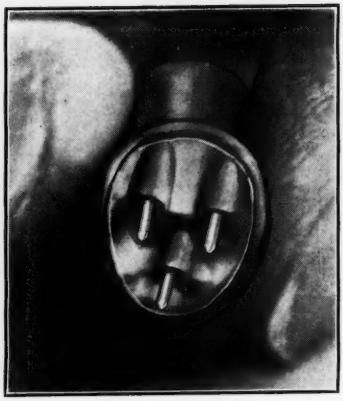


Fig. 6

for all superior centrals, all cuspids and superior laterals.

Two exceptions to this are the one-pin pinledge and the two-pin pinledge. The one-pin pinledge is used as a stabilizer to prevent rotation of the bridge where one abutment is used to support one pontic. The preparation of the cavity consists of the same four stages, except that the entire preparation is made at the linguo-proximal angle of the tooth adjacent to the space to be bridged. The steps in construction of this pinledge are the same as the construction described.

The two-pin pinledge is used in very small superior laterals and in

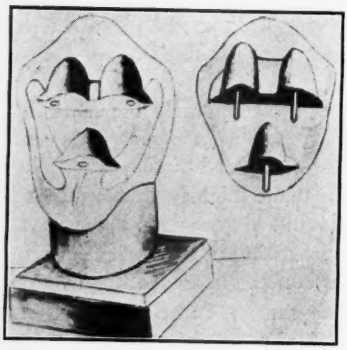


Fig. 7

Fig. 8

most inferior central and lateral incisors. The object of using two pins and two ledges is to give the pulp a greater margin of safety. The technic is the same as the one described, except that during the third stage of preparation a new mounted stone, No. 30, is used instead of the wider stone, No. 29.

Figure 8 shows the principles of the preparation of the two-pin pinledge and the under surface of the pinledge.

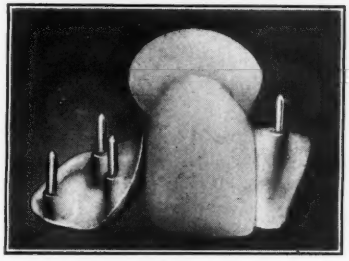


Fig. 9

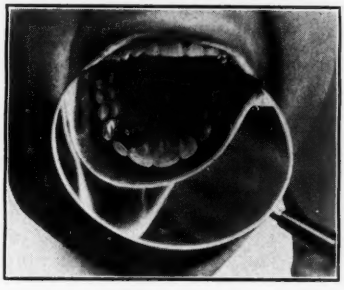


Fig. 10

Fig. 11

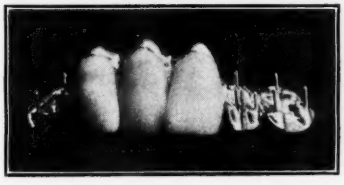


Fig. 12

Fig. 13

Figure 9 shows a bridge with a lateral pontic. The three-pin pinledge supports the lateral and the one-pin pinledge acts as a stabilizer.

Figure 10 shows the same bridge in the mouth.

Figure 11 shows two two-pin pinledges supporting one central. In this case two centrals were missing, but there was room enough for the replacement of one tooth only.

Figure 12 shows two centrals and a lateral being supported by three pinledges. Because the left lateral was slightly loose, a third pinledge was added for additional support.

Figure 13 shows the same case in the mouth.

260 West End Avenue.

Clarence J. Grieves Library Foundation

It will undoubtedly be of interest to our readers to know that while other organizations have honored Dr. Clarence J. Grieves, in appreciation of his services to the profession, the Maryland State Dental Association has also completed its plans to honor him in a way that seems particularly fitting. Serious consideration was given various plans, and it was finally decided to establish a Dental Library to be known as the Clarence J. Grieves Library Foundation of the Maryland State Dental Association. An endowment has been established that will provide for a perpetual increase in the number of volumes; a most attractive bookplate has been especially designed and markers from this plate will be inserted in each book placed in the Library. Through a mutual agreement the Library will be placed as a separate unit in the Library at the University of Maryland. The formal announcement of the Foundation and the acceptance of the honor by Dr. Grieves will take place at a banquet to be held on May 4, 1926, during the annual meeting of the Association.

Already many donations of dental books have been made to the Library and the Board of Trustees extends an invitation to Dr. Grieves's friends to contribute books or journals if they so desire. Dr. Grieves has always been interested in dental literature and dental research, and he has made so many contributions to both that this seems a most appropriate tribute.

A Means for Adjusting Arch Wires Without Distortion*

By Percy Norman Williams, D.D.S., New York, N. Y.

A hasty review of the history of orthodontia indicates that the development of appliances and appliance technic has been faster than the development of the theoretical side and the mastery of fundamental principles. A comparison between the 16-gauge arch wire as used by Angle twenty years ago and the delicate ribbon arch and lingual wire of today indicates the important development in appliances. Unfortunately, we have not made the same progress along theoretical lines. There is still too much uncertainty in diagnosis, too much of a tendency to start a case without a carefully prepared plan. Whatever is done in orthodontia as a specialty is likely to be reflected in the field of general dentistry. Because of the traditional belief that the operator is capable of varying the arch as the work progresses, rather than moving the teeth toward a definite, predetermined arch outline, we find that the average general practitioner undertakes a case without first having prepared a plan indicating a line of treatment.

It is an axiom in logic that a plan must be conceived before it can be executed. This is true in other realms of human activity, and it is most certainly true in orthodontia. It is regrettable that its truth has not been more generally recognized. Unfortunately, the reverse has too often been true and the general practitioner has relied upon laboratories for appliances and advice. Most of the men who make appliances in these laboratories are merely clever mechanics who have not even a smattering of the fundamentals of orthodontia. We believe that the positions of all teeth should be carefully indicated on the diagram at the time treatment is undertaken and an outline made showing the normal positions the teeth should occupy. Time spent in diagnosis is certainly well spent.

For the past fifteen years there has been a constant tendency to reduce the size of appliances with a corresponding change in their action from a harsh to a more gentle pressure. There has also been a tendency to develop appliances with more definite action, with less slippage and the elimination of the small wire ligatures. Angle's great contribution in the form of a ribbon arch has done much to bring about these improvements. While the ribbon arch is not looked upon with favor by some exponents of the lingual wire, the method of attachment is truly remarkable. Hawley's substitution of the 22-gauge round wire for the ribbon arch for starting a case, used in connection with the same bracket bands, is, we believe, another great step toward the ideal appliance.

* From a clinic before the First District Dental Society, New York, December, 1925.

The adjustment of the ribbon arch requires rather delicate manipulation, especially when bending it in a vertical direction. Then it holds teeth rather rigidly and does not permit the freedom of movement that a round wire affords. The adjustment of the 22-gauge round wire, of course, requires experience. A wire conformed to a very irregular arch sometimes contains rather sharp angles. In the correction of this wire there may be a difference of opinion as to which angles should first be straightened out and the amount that each should be straightened. Taking out an angle, of course, changes the relation of the arch ends and necessitates a readjustment of the arch wire in the buccal tubes. We have felt for a long time that an arch wire should be adjusted without distortion, and this can be accomplished only by holding the arch ends in some kind of an instrument. It also seems

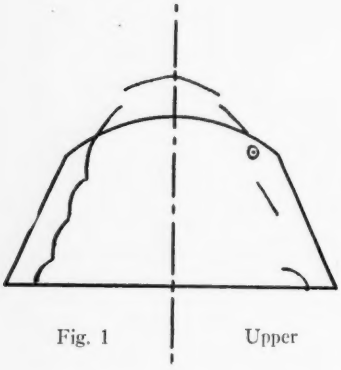


Fig. 1 Upper

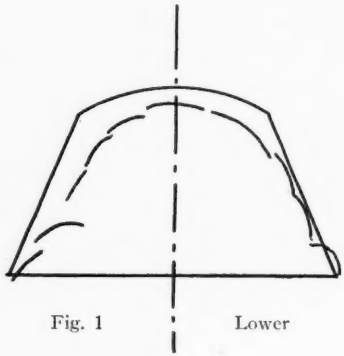


Fig. 1 Lower

logical that the most pronounced bends in the anterior part of the arch wire should be removed first. Along with this there should be an adjustment of the wire to cause expansion between the cuspids when necessary.

We have already mentioned that we favor a complete plan of treatment indicating the positions of the teeth at the time treatment is begun and the positions which they should occupy in a normal arch. Figure 1 shows such a plan. The curve for the upper anteriors being definitely known, it is used as a guide for shaping the upper arch wire. A form is selected to correspond with this curve and inserted in the instrument shown in Figure 2, by means of which the wire may be adjusted without distortion, the pronounced bends may be removed and the wire may be adjusted to cause expansion between the cuspids. The arch wire is inserted in this instrument and the arch ends are adjusted, as desired, with the proper distance between the molars. A blow-pipe

is then turned on the anterior part of the arch wire and, while it is heated to a cherry red, the form is moved forward by an adjusting screw which removes the most pronounced angles and eventually perfectly adapts the wire over the form. Using a 22-gauge arch wire and applying pressure in such an absolutely accurate and scientific manner, we are able to apply a great deal more pressure without causing the slightest congestion or discomfort. An appliance adjusted in this way differs radically in its adaptation to the teeth from one that has been adjusted by hand and with pliers. The pressure is never harsh because there is, of course, a much wider distribution of force. There

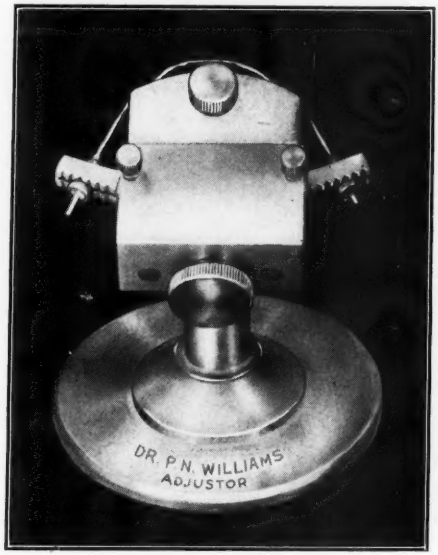


Fig. 2

can be no false bends in the wire nor any wasted energy, since with each adjustment the wire is slowly but surely approximating the desired outline. Neither is there the slightest distortion of the arch ends, since they are held firmly while the pressure is being applied to the anterior part.

We believe that this instrument is another step in our efforts to place orthodontia more firmly upon a definite scientific basis, where guesswork and uncertainty are removed.

40 East 41st Street.

Apicoectomy and Its Advantages to Prosthesis*

By Joseph C. Ruggier, D.D.S., New York, N. Y.

Formerly Interne, Bellevue Hospital; Assistant Visiting Dentist, Bellevue Hospital

The subject *Apicoectomy* is one with which we all are acquainted. Most cases where this operation is indicated are first seen by the general practitioner, who frequently refers the patient to an oral surgeon. Lack of cooperation has often resulted in failures, with consequent prejudice to this valuable method of conserving teeth.

As a result of this attitude, the average tooth presenting rather extensive periapical absorption is disposed of by routine root canal treatment or extraction. Of the two evils the latter is by far the lesser one, as an infected area is seldom, if ever, effectively drained through the root canal, leaving the tooth a shining monument on a putrescent grave.

When it is desired to conserve one of the valuable anterior teeth, a knowledge of the patient's clinical history is most essential. The operation should not be undertaken when serious systemic disorders, such as anemia, diabetes, tuberculosis, syphilis, etc., are present. Further reinfection and complications may occur, due to the patient's lowered resistance. Following these considerations a thorough physical examination of the mouth and tooth in question is made. Oral tissues of healthy tone are a necessary factor for success. Proper radiographs must be obtained to study the amount of alveolar absorption. When the combined apical and gingival absorption has resulted in the loss of two-thirds of the alveolus, the prognosis is unfavorable. This small amount of supporting structure would render the tooth useless as an abutment, and the operation would be indicated only to eliminate the focus of infection and retain the tooth for esthetic purposes. As a general rule, the best results are attained where one-half or more of the length of the root is supported by the alveolus.

The diagnosis being completed and apicoectomy decided upon, the operator will fail unless the root canal is aseptically and thoroughly prepared. I want to emphasize the importance of this step, as it lays the foundation to success. Cases successful from the surgical standpoint have often proved failures because the preparatory root canal technic lacked thoroughness. Therapeutic treatment of the root canal depends entirely upon the pathology present in the given case and must be left to the dentist's judgment. The root canal must be made aseptic and preferably filled slightly beyond the apex. With this part of the work completed, the root resection may be performed.

* Read before the New York Stomatological Society, January 26, 1925

Technic

Under conductive anesthesia a transverse semi-lunar incision is made to extend over the tooth involved and the one adjacent on each side, the convexity to be toward the gingival margin but not to come closer than one-quarter of an inch in order to prevent possible anemia and sloughing of the isolated part. The mucoperiosteum is raised from the area with a periosteum elevator, and the flap held with a two- or three-prong retractor. Usually a break in the bone indicates the point of entry, and with a bone bur or chisel and mallet the opening is enlarged and the cavity fully exposed. The projecting apex is excised with either a No. 3 round or a No. 56 fissure bur and the remaining portion rendered smooth and flush with the surrounding bone. (A No. 3 fissure inlay bur is also found useful.)

When a sac or cyst is present, it is best to dissect it out carefully. The diseased bone is thoroughly curetted away, leaving a surface of clean, healthy bone. The cavity is cleared of debris by irrigating with a warm, normal saline solution, dried with sterile gauze and the root surface touched up with a 10 per cent solution of silver nitrate to seal the dentinal tubuli. In cases where infection is present it is necessary to suture the flap only partially, leaving an opening through which an Iodoform dressing is inserted and drainage maintained. An antiseptic mouth wash is prescribed, and the patient is asked to return in forty-eight hours for irrigation and redressing. The case is seen every other day until granulation is well under way. The sutures are removed after three or four days. When no infection is present and the wound is expected to heal by first intention, the walls of the cavity are scarified, a blood clot permitted to form and the flap completely sutured. In my limited experience I have found the results most gratifying and greatly appreciated by the patient.

There are cases where this procedure is of inestimable value. A case which occasionally comes under observation is one in which the full number of teeth is intact in the arch and one of the anteriors shows evidence of periapical absorption. If one estimates the amount of necessary mutilation caused to the adjacent teeth used for abutments in replacing this tooth and the difficulty encountered in making a restoration appear like the natural tooth, perhaps more consideration will be given the conservative method advocated in this paper. The comfort and services derived from the natural organ, together with the trouble spared the patient from the continuous attention given either a removable or a fixed bridge, more than repay him for the apparent ordeal of root resection.

Other cases more commonly found are those in which a molar is present on each side of the arch or a molar on one side and a bicuspid

on the other with an anterior tooth with periapical absorption. The advantages in saving this tooth by the described method and utilizing it as an additional pier for the required restoration are readily seen. First, the retention is much more secure, and, secondly, the stress from the leverage is relieved on the posterior teeth.

"A Tooth in the Head Is Worth Ten on a Plate"

Case History

A trained nurse, aged (?), suffered pains in her limbs and wrists. Her physician, who suspected focal infection in her teeth, asked for a dental examination. The mouth showed good care with few large fillings. Transillumination disclosed a marked opacity in the upper right lateral, which had a synthetic filling in the mesial side. A full series of radiograms was taken and upon examination a large rarefied area was plainly visible at the apex of the suspected lateral. The alveolar process was normal at the neck. The lack of root canal filling rather indicated that the pulp had never been extirpated.

There being a full number of teeth in the maxilla, it seemed almost criminal to extract this important member. In spite of the existing systemic condition I felt that by surgically removing the focus the tooth could still remain to perform its function. The suggested apicoectomy was sanctioned by the attending physician and agreed to by the patient.

The following is a description of the treatment and reactions. With rubber dam and sterile instruments the pulp chamber was opened. The odor of putrescence being absent, a treatment of Black's 1-2-3 was sealed in the pulp chamber. By the following day the patient's face showed pronounced swelling on the right side. This caused no alarm, as it had previously happened in similar cases. It is possible that this unexpected development may be due to aerobic and anaerobic bacteria in the involved canal and rarefied areas. This is described by Brophy in his chapter on *Surgical Bacteriology and Infection,* under the subdivision *Conditions Favoring Bacterial Growth,* a part of which reads as follows: "Oxygen is essential for the growth of some bacteria but not for others. There are many, like the facultative saprophyte or parasite, which can exist with or without oxygen. Those which require it are known as aerobes, while their opposites are called anaerobes. A facultative anaerobe is one which grows best in the presence of oxygen, but can grow without it, while a facultative aerobe is its opposite. An anaerobe is capable of growing in the presence of oxygen if an aerobe is reproducing at the same time. The aerobe absorbs the oxygen and permits the anaerobe to grow. This is well shown by the fact that bacilli tetani grow on a surface wound in the

presence of strepto- or staphylococci. (Tetanus is an obligatory anaerobe.)"

STAPHYLOCOCCI

While development is most characteristic and luxuriant under aerobic conditions, staphylococci are facultatively anaerobic on suitable media. They grow readily in an atmosphere of hydrogen.

STREPTOCOCCI

While the free access of oxygen furnishes the most suitable environment for most races of streptococci, complete anaerobiosis does not prevent development in favorable media. Strictly anaerobic streptococci have been cultivated from the human intestinal tract. Anaerobiosis means life without free oxygen.

With a 30 per cent sulphuric acid solution the debris in the root canal was slowly removed, and upon opening the apical foramen a copious flow of pus passed through. A clean piece of absorbent cotton was loosely placed in the pulp chamber and the patient instructed to use a saline mouth wash and apply an ice bag on the face. The inflammation slowly subsided and after five days it completely disappeared. The acute stage having passed, treatment with formocresol was started and continued until the root canal was made perfectly dry. It was then sterilized and aseptically filled by the Callahan method.

The rheumatic pains have considerably diminished, and I believe that after the operation the patient will be entirely relieved.

33 West 42nd Street.

The Dental Hygienists Association of New York City

The February meeting of The Dental Hygienists Association of New York City took place on Tuesday evening, February 2, 1926, at the Academy of Medicine, 17 West 43rd Street, New York City. The speaker of the evening was E. King, M.D., who gave a very interesting talk, illustrated by lantern slides, on *The Nose and Throat in Relation to Oral Hygiene.*

A cordial invitation is extended to the members of the profession to attend the meetings, which are held the first Tuesday of every month.

All hygienists who are members of the Association are asked to come out to the meetings regularly as they will find it well worth their while.

Hygienists who are not members are invited to join.

Localization

By Joel M. Zametkin, D.D.S., Brooklyn, N. Y.

(*Third Article*)

A clear understanding of localization is not amiss in these days of the radiograph. Perhaps no better definition of the subject than the following can be given:

Localization is a method by means of which one can determine with accuracy the position of an object in relation to two other objects; that is, three objects are involved—in other words, one depends upon triangulation.

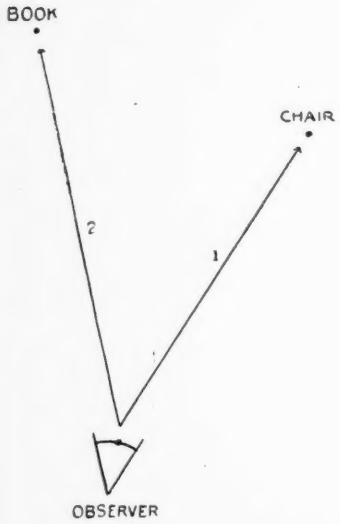


Fig. 1

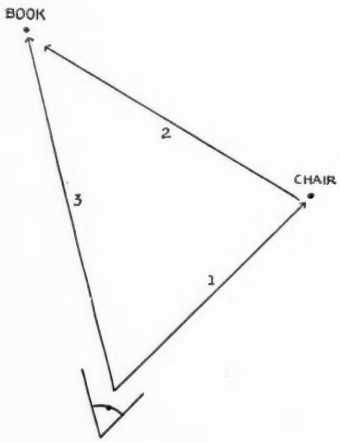


Fig. 2

We speak of the book and the chair, the book being to the left of the chair. Although two objects are mentioned, it must not be forgotten that this is from the observer's point of view (Fig. 1). Here the observer can see the chair, also the book, but *he* is always one of the determining points. The position of the book cannot be settled unless another fixed point is made (Fig. 2). Here the observer looks to the chair, a fixed point, and from there sights left until the book is found. He then discards the chair's position to all intents and purposes and from himself finds the position of the book. He has localized the book by means of two fixed objects.

In the first diagram there was simple sight, but as soon as position is intended, then sight must be subjected to a relationship with another object. Having done this and having determined all fixed objects and their interrelationship, we have localization. This we find in Figure 2, proving that by making two sides of a triangle and then filling in the third we localize.

One more illustration may be given to fix the principle (Fig. 3). The book is to the front and to the right of the chair, therefore look to the chair to find one side of the triangle (finally to localize the book), then from the chair look front and then right to find the second side of the triangle (finally to localize the book). Having done this, complete the triangle by filling in the points. Notice that Arrowheads 2 and 3 point to the localized object.

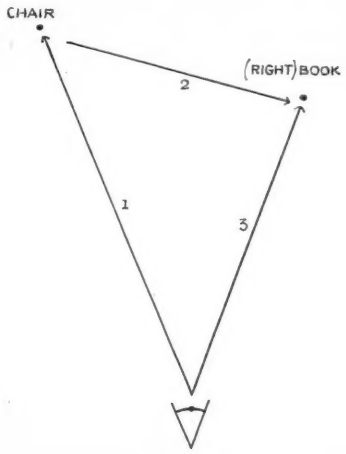


Fig. 3

Having grasped the principle of triangulation, let us study its application to localizing the position of an impacted, unerupted or malposed tooth. It is quite true that in the foregoing illustrations the objects were in plain view. Suppose that the book were in another room, having a wall with a glass-panelled, shade-drawn door in it, and the book could not be seen. Can we determine its position? Can we localize a tooth we do not see? Yes, in both cases. Raise the shade and triangulate through the glass panel. The illustrations are analogous.

After all is said and done, radiography is only a mechanical means to enable us to see the so-called unseeable. The microscope, the telescope, the spectroscope, etc., are only mechanical aids to a very limited vision. Let us take, for instance, the classical example of the impacted cuspid, absolutely unseen, and determine its position; that is,

determine whether it is labial or lingual to the surrounding teeth. Let us triangulate it to localize it. This can be done by means of the five methods following:

1. *The Bite Plane Method*—the simplest for operator and patient, and the most reliable.
2. *The Shift Sketch Method*—somewhat complicated for operator and patient and not so accurate.
3. *The Stereoscopic Method*—very involved, taxing operator and patient; all factors being correct, the results are not bad.
4. *The Opacity Method*—simplest in all ways, but unsatisfactory, depending upon interpretation of intensities of shadows.
5. *The Objective Method*—in reality depending on direct vision and, therefore, really outside the subject of radiographic localization.

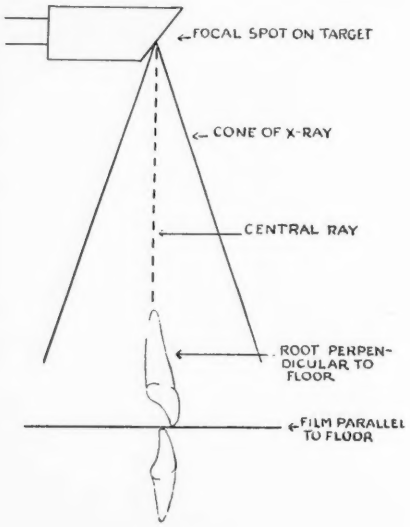


Fig. 4

Before describing these various methods, let me impress on the reader that in radiography the tube is the eye and sees for us through the tissues until we have the prints; then we substitute the actual eye for the tube, so that in the diagrams to follow the sketch of the eye is really tube or eye.

In the Bite Plane Method, the film is held firmly between the teeth, so that it is parallel to the floor and the roots of the teeth are perpendicular to the film. The tube is set over the head so that the central rays will strike the roots head on. (Fig. 4.) It is obvious that the extreme

position of the impacted cuspid is labial or lingual to the arch of the visible teeth. The object here, then, is to obtain a picture of the relationship of this hidden tooth to those seen. In other words, we wish to bring the hidden into view and in this way be able to triangulate or localize it. The following diagrams will make this clear.

Let us place the cuspid to the lingual side and study Fig. 5. Note that the ray casts a circular shadow of the central and a more or less correct image of the cuspid, but observe that the shadow of the cuspid is cast to the lingual side. Applying triangulation, we find that the

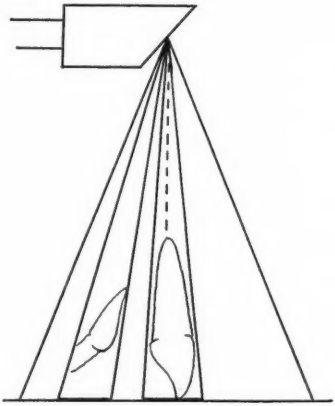


Fig. 5

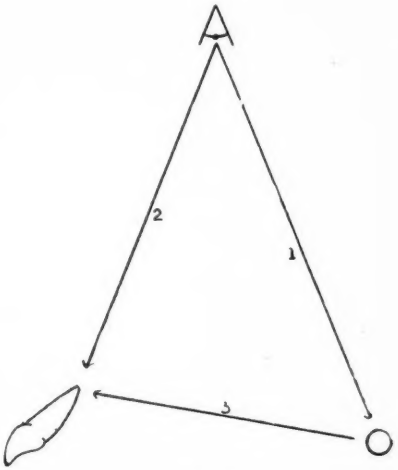


Fig. 5A

eye locates the fixed object—the arch; that the eye finds the hidden object now brought to view and finally localizes the object sought. To fix its position, the eye casts about from the fixed object, the arch, sights to the undetermined point and fixes the position of the tooth at the point where the lines intersect.

Suppose a cuspid lies labially, what then? Figure 6 will explain itself upon a moment's study. It now becomes evident that in the Bite Plane Method the position of the impacted tooth is easily determined and that the tooth will lie either inside the arch or outside, depending on whether the cuspid is lingual or labial.

In the Shift Sketch Method, the same principle is employed, but with complications. Here two exposures are required. In each case the tube is shifted to the left or right and, if the object radiographed moves with the tube, that is, to the left or right, as the tube is moved

left or right, then the tooth lies lingually. However, this is stating the conclusion before developing the rule. Let us try the following experiment and then study it diagrammatically to note the results:

Designate the left index finger as in palatal position, the right index finger as in labial position. With the left eye closed, line up the two fingers in front of the right eye about a foot from each other, the left finger behind the right. Simultaneously, but without moving head or fingers, open the left eye and shut the right. Note how the left finger literally springs from behind the right in an apparent attempt to follow the left eye, while the right finger seems to dash away from the left eye and finger. Vary this experiment in as many ways

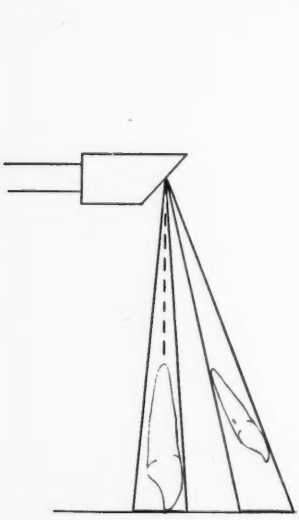


Fig. 6

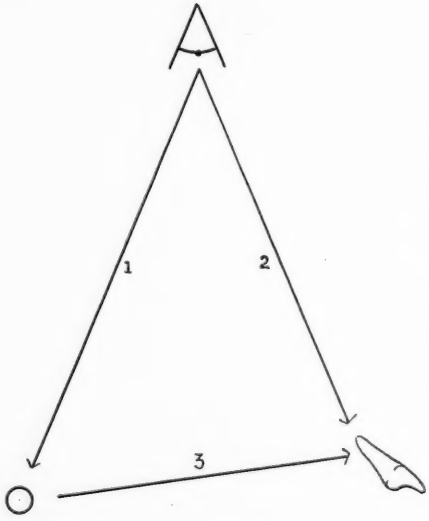


Fig. 6A

as may suggest themselves and you will note that the results are the same. Actually this is not so. It is an optical illusion and, if accepted as such only, is a remarkable aid in determining the position of the tooth sought.

Let us study this experiment diagrammatically (Fig. 7). It will be noticed that in the first instance the eye and both fingers are made to coincide, with the result that both images appear as one. However, with the shifting of sight to the left, the original position of the fingers remaining the same, the image moves to the right of the eye with such rapid divergence—the front finger dashing off to the right and to the extreme and the left finger also to the right but with very small deviation, both from the point of vision and the original coincided images—

that the eye, being slower and having one line of vision, can take in only the more slowly moving object and retains it more readily, but to the eye, losing sight of the faster-moving image, there remains the optical illusion that the hindmost finger follows to the left with the left eye. The diagram disproves the illusion.

With this optical illusion demonstrated or disproved, let us apply the theory of triangulation and note that the principle is infallible (Fig. 8). The line of vision travels to the right finger image, that is, that tooth in the arch that is actually seen. The eye finds the left

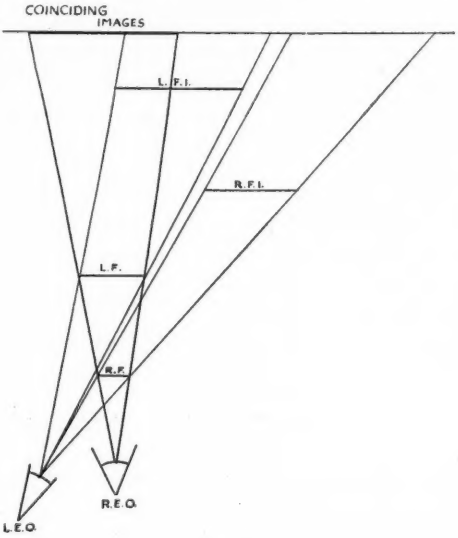


Fig. 7

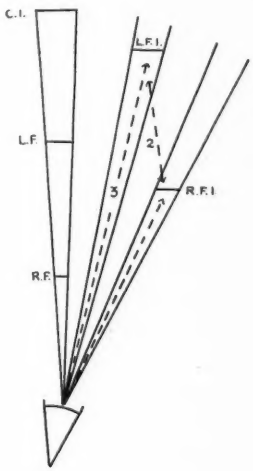


Fig. 8

finger image, the hidden tooth. Now, to determine its exact position, the eye decides that the tooth is to the left of the fixed point and casts about to the left for the point to be fixed. Line 3 directs the arrow to the left finger image and so the point is localized, because two sides of the triangle point to one spot. Of course, the race-old habit of vision is so automatic that its detailed analysis becomes bewildering. How much more so it becomes when we determine position by the third method of stereoscopic radiography!

16 Court Street.

(To be continued)

Togo's "Discursions"

Mr. Editor of Digestible Magazine
Somewhat Related to Dentistry

Hon. Sir:

Tempestuous month of March contains several natural curiosities consisting principally of large variety of weather, uniformly different on thirty-one consecutive days; also phenomena of St. Patrick Day may be noted on date of seventeenth, as only National Holiday on which all banks in good running order remain open instead of bashfully reposing behind closed doors, containing discouraged sign announcing "Closed—Legal but scarcely noticeable Holiday."

March is peculiar month, conveying first traces of Annual Event called Spring by the inhabitants of U. S. A., who are frazzled as result of long winter containing, among other things, coal bills, ashes, soot, cinders, flu, pneumonia, goloshes, overcoats, noses running on non-union schedule, skid-more chains, non-freezing solutions, defunct Christmas decorations, social uplift functions, charity drives, and dental meetings too numerous to mention.

Dental meetings, Mr. Editor, are wonderful manifestations of professional growth, and several other things. Consider following facts relating to these annual phenomena as variously produced, sponsored and attended:

1. Any "Show" draws in direct proportion to its total attractiveness to possible attendance.

2. All dental meetings contain considerable information, and those held in large cities include also delicious variety of side attractions ranging from The Miracle to The Bat, with option of side trips to Shimmyville by the Charleston.

3. Ideal dental meeting would consist of exactly two men. One intentionally desiring to teach, and other equally unbalanced with violent thirst for knowledge.

4. However, at such meeting important functions of back-slapping and "How's a Boy?" would be entirely absent; Sweet Adeline would probably fail to put in more or less harmonious appearance at closing obsequies of last session; class reunion of all annual vintages would fail to occur; fraternity and all other banquets consisting of high cost per indigestible calorie would be scarcer than traffic cops in Baffinland, therefore such meeting is never held and splendid possible results are unknown to all except a few bashful members who mostly keep beauty secret that they have met with bosom friends in complete seclusion of back office or laboratory and really learned something.

5. Big meetings contain big men with big ideas, but owing to

lack of personal touch and actual contact, to further fact of great rarity of phenomena of really open mind in cases of all adults who possess one, much of volatile gas escaping from the teacher or honorable source of supply is entirely lost in form of useless vapor before entering the small bore cylinders supposed to exist in brains of Honorable Listeners; therefore effectiveness of said Big Men is largely diluted and lost in all present processes available for transmission of their ideas.

6. In spite of fact just noted, meetings in all larger cities continue to draw dentists in increasing quantities, while attendance at gatherings of smaller groups require frequent applications of pulmotor in order to prevent complete collapse of smaller organizations.

7. Conclusion is therefore inevitable, Mr. Editor, that Dentists attend Dental Meetings on basis of age-old fact that they are chiefly human beings, with varying traces of desire for professional advancement, grafted on to this Parent Stem. Said traces being frequently overgrown with the fungus of self-satisfaction and intellectual obesity.

8. Appetite of many DDS in attendance is so keen for delightful poker game with Scotch trimmings that splendid papers and clinics occurring on lower floors of same hotel are successfully overlooked for sake of higher life occurring behind closed doors on fourteenth floor.

9. Profession of dentistry has made remarkable progress during last fifty years, and would quite possibly in year of 1926 assay smaller percentage of non-union steamfitters and plasterers than ever before; nevertheless, Mr. Editor, vast possibilities for improvement are still waiting, and will be realized only as honorable doctor of D.D.S. slowly evolves into increasingly higher mentality with eye fixed on advancement of entire profession and best welfare of general public rather than on matters of personal gain and best methods of opening jack pot while in attendance at dental meetings now provided in large and attractive varieties throughout world suburb called U.S.A.

Hoping you are the same,

Yours dejectedly,
Togo.

A Clinic By the Dental Hygienists Association of New York City Before the First District Dental Society, New York, December, 1925

Among the first steps in the practical training of the dental hygienist is the carving of teeth in order to familiarize the student with the normal outlines of the teeth, as shown in Figure 1.

In Figure 2, the "Eating for Teeth" Exhibit, is seen a simple and inexpensive exhibit made by the use of colored food models. These models may be arranged into exhibits of balanced meals.

Figure 3 shows the dental hygienist giving a prophylaxis treatment.

Figure 4 shows the "Caring for Teeth" Exhibit, in which simple points in mouth hygiene are exhibited. This picture does not tell the whole story, but rather arrests attention and draws questions from the observer.

Fig. 1

The best foods for building strong teeth are
Milk
Green Vegetables
Fresh Fruits
Dark Breads
Cereal.
The material for building teeth is provided by the food you eat.
Both expectant mothers and children especially should eat tooth-building foods daily.
Always use Graham, Whole Wheat and Rye Bread.
Every morning have a serving of Coarse Cooked Cereal.
Eat Fruit Daily
Orange - Apple
Prunes - Raisins
Eat a serving of spinach, beet greens cabbage, lettuce or tomato daily.
Take four cups of milk daily.
Chew Your Food Well
Every day eat a food which requires chewing
End your meal with a self-cleansing food
Apple - Celery
Lettuce - Etc.

Fig. 2

Fig. 3
Scaling.

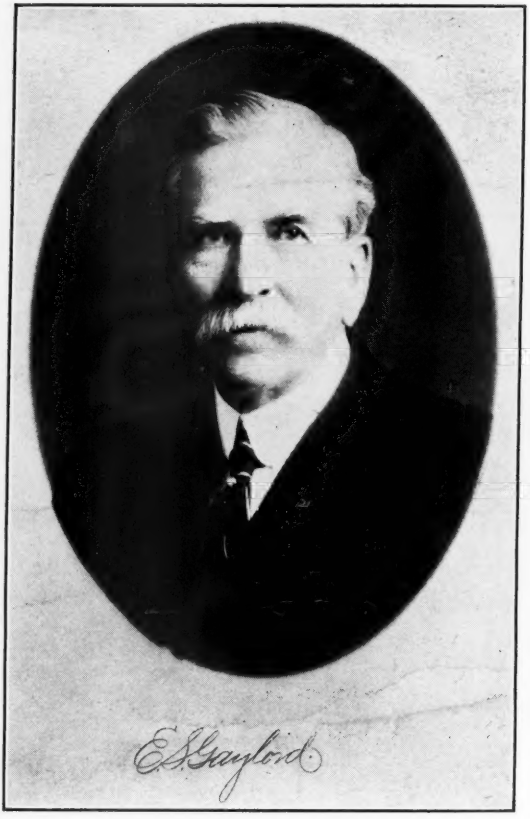
Fig. 3
Polishing.

Fig. 3
Flossing.

Be True to Your Teeth or They will be False to You.
Have You a Perfect 32?
The Finishing Touch.
The best tooth powder or tooth paste is elbow grease.
Brush three minutes by the glass.
Use Dental Floss After Meals.
Brush around and around on the outside.
Be selfish about your tooth brush.

Fig. 4

Edward Sanford Gaylord



Edward Sanford Gaylord, who died in New Haven, Connecticut, on January 3, 1926, was born in Gaylordsville, Connecticut, in 1840. In 1874 Dr. Gaylord was married to Harriet Taylor, who died in 1910.

Dr. Gaylord was a charter member of the New Haven Dental Society, as well as its President from 1899 to 1902; President of the Connecticut State Dental Association in 1893; President of the American Dental Association in 1910; recipient of an honorary degree from

the Baltimore Dental College in 1913 and of the Newell Sill Jenkins Medal in 1925; an honorary member of the First District Dental Society, New York, and a member of the Horace Wells Club. He was also a Knight Templar and a member of the New Haven Chamber of Commerce.

Aid For Dental Students

Under the terms of the will of the late Dr. Edward Sanford Gaylord the residuary of his estate is left to the Maryland College of Dental Surgery, says the N. Y. Times, the income to be used to aid poor and worthy dental students. The estate totals $250,000. The value of the residuary is not known. Dr. Gaylord's nurse, Edith Irene Smith, receives $10,000.

DENTAL LAWS

Summary of Dental License Requirements Throughout the World

By Alphonso Irwin, D.D.S., Camden, N. J.

QUEENSLAND

The Dental Board of Queensland in 1923-1924 consisted of A. R. Menzies, President; A. Ure McNaught, Treasurer; P. F. V. Crowe, W. R. Parker, J. R. Kain, L. J. Spence, A. R. Bennett. T. B. Hunter, Registrar, 22-24 Towne Hall Chambers, Queen Street, Brisbane, Queensland, Australia.

At least two members of the Dental Board must be medical practitioners; the term lasts six years, and the appointments are made in March every third year by the Governor-In-Council.

The dental Act in force is dated December 26, 1902, and amended in 1916.

The English language, general medical council and dental supervision, registration and examination are required. Final examinations in practice and theory are held at Brisbane each year, fee ten pounds ten shillings. Annual registration with the Board in January, fee one guinea. The Dentists' Act states, Section 8, "Every person, whether male or female, shall be entitled to be registered under this Act upon making application in that behalf in the prescribed form, and upon proving to the satisfaction of the Board that such person (1) has attained the age of twenty-one years and is a person of good fame and character, and (2) is registered in the United Kingdom in accordance with the laws for the time being in force therein as a dentist or medical practitioner, and is still entitled to practise his profession in that country, or (4) has obtained the prescribed certificate of fitness after the prescribed examination, or (6) holds a recognized certificate." The following certificates are recognized: Licentiate in Dental Surgery of the Royal College of Surgeons of England, of Edinburgh, of Physicians and Surgeons of Glasgow, of the Royal College of Surgeons of Ireland, Licentiate of Dental Surgery in a University of Australia, or other British Possession, provided that the license or degree confers on the holder thereof the right to practise in the British Possession in which

the license or degree was obtained. Degrees of the Universities of Harvard, Michigan, Pennsylvania and Illinois are also recognized.

QUINTANA ROO

Quintana Roo is a Mexican State in the Campeeche Peninsula, located on the Carribbean Sea. It contains several large towns and cities. Consult the Federal Dental Law under the title of Mexico. Dental regulations are enforced in the largest cities.

RE-UNION

Re-Union is an island East of Madagascar in the Indian Ocean. It is an integral part of France, and is represented in the Parliament at Paris by a Senator and two Deputies. It is inhabited by 167,789 people of French-European origin. It is quite productive for an island about one thousand miles square. The exports and imports are very noticeable.

French credentials are most acceptable for professional men. Consult France and the French Colonial Dental Laws.

Address the Governor of the Island at Re-Union for full information.

RHODE ISLAND

Board of Dental Examiners: President A. H. Spicer, Jr., Westerly, R. I.; Secretary, Albert L. Midgley, 315 Butler Exchange, Providence, R. I.; E. F. Gill, Olneyville, Oscar P. Huot and James F. Gilbert, Woonsocket, R. I.

The dental laws are dated 1909, 1913, and amended 1918.

The English language, dental supervision, registration and examination are required. Practical and theoretical examinations are held either during the last week of June or the first week of July, as announced prior to the meeting of the Board in the Dental Journals, in Providence, R. I. Fee $20.00. Second examination, if necessary, $5.00 additional.

Requirements: All applicants must be graduates of a reputable medical or dental college and a high school or its equivalent. Written examinations are conducted upon subjects taught in a standard dental college. Practical demonstrations of the candidate's operative and prosthetic skill are required according to the schedule announced by the Board of Examiners just prior to the meeting.

Rhode Island does not interchange dental licenses with any other state, and the dental law contains no reference to reciprocity.

Annual registration with the Secretary of the Board in December must be made by both licensed dentists and dental hygienists. Failure

to register annually subjects the delinquent to a fine ranging from $10.00 to $25.00 for each day lapsed, and the delinquent "shall be deemed to be practising illegally."

It should be noted that specific mention of the "Dental Hygienist" is omitted in some versions of the 1918 amendment to the Rhode Island 1918 Dental Law.

For other information address A. L. Midgley, Secretary, Butler Exchange Building, Providence, R. I.

A meeting of the Rhode Island State Board of Registration in Dentistry for the examination of candidates will be held in the State House in Providence—as announced prior to the meeting—beginning each day at 9 A. M.

Instructions for Applicants

First: All persons desiring to commence the practice of dentistry in Rhode Island must apply to this Board for a license so to do.

Second: Applicants for examination shall present to this Board, at least one week before the commencement of the examination, at which he or she is to be examined, a written application on a form provided by said Board, together with the regular examination fee of $20.00, which in no case shall be returned. In case of failure on the part of any person to pass a satisfactory examination, such person shall be entitled to a second examination at a subsequent meeting, upon payment to the Board of the sum of $5.00.

Third: *Theory.* All examinations shall be written in the English language, in ink, and shall be on the following subjects: Physiology, Pathology, Anatomy, Histology, Chemistry, Anaesthesia, Materia Medica, Therapeutics, Orthodontia, Surgery, Operative and Prosthetic Dentistry, Bacteriology, Crown and Bridge Work, and Metallurgy.

Fourth: *Practice, Operative Dentistry.* Each candidate must come prepared with gold, rubber-dam and instruments, to demonstrate his or her skill in operative dentistry; all cavities for gold must be approximal, reasonably difficult, and shall be prepared and filled in the presence of the examiners; an Amalgam filling may also be required. Candidates are expected to provide their own patients. No excuse will be accepted for failure to comply with these instructions.

Fifth: The theoretical examinations will commence promptly at 9 A. M. on the day designated and continue until all applicants have been examined. An average of 70 per cent in both theory and practice will be required for registration.

Sixth: Each candidate, upon arrival, shall report to the Secretary and receive a card, on which is his examination number. By this number shall the candidate be known throughout the examination.

Seventh: Applicants shall affix to their examination papers their

number *only,* and on the completion of each paper shall present the card to the examiner in charge of that section for his signature. At the completion of the examination, the candidate shall sign the card under the number with full name and address, and return to the Secretary.

EIGHTH: Questions must be answered in routine, and papers and questions handed in to the examiner of the section at the end of each session. All unanswered questions will be marked against the applicant.

NINTH: Any candidate withdrawing from the sight of the examiner without permission shall forfeit his examination on that section.

TENTH: Help of every kind must be removed from the reach and sight of the candidate. Any candidate detected in an attempt to give or obtain aid in copying the questions, or in using any other unfair means, shall be instantly dismissed from the room, and his papers for the entire work shall be cancelled.

ELEVENTH: Candidates are required to take the entire examination or no credit will be given, as no partial examination will be accepted.

TWELFTH: All papers and signed cards must be turned in to the Secretary on the completion of the last examination.

Each candidate must file with the Board, and sign in the presence of the Secretary, a photograph of recent date.

Each applicant must submit in person his diploma to the Secretary of the Board.

The Rhode Island Dental Laws make no provision for the Board to issue temporary permits for the practice of dentistry.

TRANSCRIPTS

SEC. 2. Section 3 of Chapter 181 of the General Laws of 1909 is hereby amended to read as follows:

SEC. 3. Every person engaged in, or licensed to engage in if not actively engaged in, the practice of dentistry in this state shall annually in the month of December of each year, beginning December, 1918, and every person who shall hereafter engage in the practice of dentistry in this state, and every dental hygienist, shall before so engaging and thereafter annually in the month of December of each year, beginning December, 1918, cause his name, address and place of business, if in business for himself, and if not in business for himself then his or her name, and the name, address and place of business of his or her employer, to be registered with said Board, which shall keep a book for that purpose; and each person so registering shall pay said Board a fee of one dollar at the time of each registration, and shall receive a certificate of registration for the next succeeding calendar year from said Board.

Every licensed dentist who shall continue the practice of dentistry

in this State after having failed to procure any annual certificate of registration at the time and in the manner required by this section shall be deemed to be practising illegally, and shall be fined not less than ten dollars nor more than twenty-five dollars for such illegal practice, and each day of such practice shall constitute a separate offense.

Said Board may allow any person so to register who through accident mistake or unforeseen cause has failed or neglected to register in December of each year, as herein provided.

SEC. 3. Section 5 of Chapter 181 of the General Laws of 1909 is hereby amended to read as follows:

SEC. 5. Each person applying for an examination shall pay to said Board, before examination, the sum of twenty dollars—which shall in no case be returned. In case of failure on the part of any person to pass a satisfactory examination, such person shall be entitled to a second examination before said Board, at a subsequent meeting thereof, upon payment to the Board of the sum of five dollars. The fees received for examinations shall be applied to defray the expenses of said Board for all matters connected with and incident to such examinations, and the members of said Board shall be entitled to the surplus, if any, as full compensation for their services.

SEC. 4. (*As amended by Chapter* 941 *of the Public Laws,* 1913.) All persons who hereafter intend to enter the practice of dentistry in this state shall be graduates from a reputable medical or dental college, legally chartered or incorporated and duly authorized to grant degrees in dentistry in the state in which it is so chartered or incorporated, and shall appear before said Board and be examined with reference to their knowledge and skill in dentistry; and to such as pass a satisfactory examination, certificates to that effect, signed by a majority of the members of the Board, shall be issued; and thereupon the names of such person receiving certificates as aforesaid shall be registered with said Board. But the provision of this section requiring graduation from a medical or dental college shall not apply to any person who shall have made written application to said Board to be examined with reference to his knowledge and skill in dentistry prior to the passage of this act; nor shall it apply to any person who shall have made or shall make application to said Board for such examination within the period of six months next prior to the time this act takes effect; nor shall it apply to any legally qualified dentist of any other state who shall have been practising dentistry legally for not less than five years prior to the passage hereof and who shall subsequent to the passage hereof present himself for examination before said Board.

SEC. 5. Each person applying for an examination shall pay to said Board, before examination, the sum of twenty dollars, which shall in no case be returned. In case of failure on the part of any person to

pass a satisfactory examination, such person shall be entitled to a second examination before said Board, at a subsequent meeting thereof, upon payment to the Board of the sum of five dollars. The fees received for examinations shall be applied to defray the expenses of said Board.

SEC. 6. All questions given to each person who takes the examinations shall be written or printed in ink, and the answer given shall be written in ink. The said questions and answers shall be placed on file two years with said Board and shall be open to any person or persons affected by such examinations.

Florida Re-registration—Important

The new Florida dental law went into effect January 1, 1926, and provides for re-registration of dentists each year. Part of Section 13 is quoted: "On or before the first day of January of each year every dentist engaged in the practice of dentistry in this state shall transmit to the said Secretary-Treasurer of the said Florida State Board of Dental Examiners his signature and post office address, the number of his or her license, together with a fee of Three Dollars, and receive therefor a renewal license."

The section also provides that in case of failure to re-register within the specified time the license will be automatically annulled, but within a period of two years, on payment of a fee of twenty-five dollars may, at the discretion of the Board, be reinstated.

Send applications to Dr. R. P. Taylor, 414 St. James Building, Jacksonville, Florida.

DENTAL ECONOMICS

An Up-to-date Check

By M. L. Hayward, Hartland, New Brunswick

"Your account for $100.00 is long past due, and suit will be entered unless I receive a satisfactory reply by wire," the dentist wired.

This telegram had the desired effect, as the customer had a checking account with a bank in the dentist's home town and promptly wired the bank directing the bank to pay to the dentist or order the sum of $100.00, sending a duplicate of the telegram to the dentist, which the dentist promptly presented to the bank and demanded payment.

"What gave you the idea we'd pay cash on a document like that?" the teller demanded.

"Because it's a check," the dentist assured him.

"Well, if that's a check, it's certainly in a new dress," the teller averred.

"Isn't it dated?" the dentist demanded.

"It certainly is."

"And directed to your bank?"

"Certainly."

"And directs you to pay a certain sum of money?"

"Yes—that's true."

"Well, then, why isn't it a check, when its signed by the customer?"

"It's certainly a new one on me, but I'll pay it and take a chance," the teller agreed, and the Supreme Court of Arkansas upheld him in a case reported in 229 S. W. 1026, where the Court ruled that such a document fulfilled all the requirements of an actual check.

"The telegraphic message from the customer can only be treated either as a private direction from the former to the bank as his agent, or as the equivalent of a written check or order for the payment of money," was the reasoning of the Court.

PRACTICAL HINTS

This department is in charge of V. C. Smedley, D.D.S., and George R. Warner, M.D., D.D.S., 610 California Building, Denver, Colorado. To avoid unnecessary delay, Hints, Questions and Answers should be sent direct to them.

NOTE—Mention of proprietary articles by name in the text pages of the DENTAL DIGEST is contrary to the policy of the magazine. Contribution containing names of proprietary articles will be altered in accordance with this rule. This Department is conducted for readers of the DENTAL DIGEST, and the Editor has no time to answer communications "not for publication." Please enclose stamp if you desire a reply by letter.

GOLD CROWNS THAT TURN DARK—I noticed an article by C. W. Z. in DIGEST Practical Hints in which he wants to know why gold crowns turn dark in the mouth. A short time ago I had a patient of that kind, and I informed her that her condition was probably due to too much uric acid in her system, and advised her to see her own doctor, which she did. He found that she actually did have an excess of uric acid and treated her for that condition. Later on I cleaned up her gold work, and now, being well over a year since this was done, her gold fixings are bright and clean looking and no complaints at hand. Probably this suggestion would help some dentist with a similar case.

T. W. MERCER.

A CASE OF LEUCOPLAKIA—In the December DIGEST your correspondent W. A. G. asked about an abnormal condition on a patient's cheek. I have had two cases of this nature and treated them with radium. Both cases were apparently entirely cured, at least there has been no return during a period of two or three years.

I think this condition is too serious for us as dentists to take a chance on the removal of infection or irritation in the form of rough fillings, crowns or roots which may or may not be the cause, or advising a discontinuance of smoking, then sitting back and put on Nature the onus of clearing up the condition. The disease is there and the sooner it is eradicated the better it will be for the patient, as most authorities claim it is precancerous. Hope this suggestion may be of some value.

L. GERALD SMITH.

Editor Practical Hints:

I would like to ask you if you still hold to the idea that exposed pulps can be safely capped in view of the teaching that pulps are apt to be degenerating in any teeth that have cavities of any size, and that a degenerating pulp is likely to be as serious a menace to health as apical areas of infection? If you still practise pulp capping, what rule do you follow to determine when the pulp is normal? Then, again, what about the further step you advocate, viz—pulp amputation—another degree worse than capping? I also understand you say you do not advocate pulp extirpation. What then—extraction in every case when the pulp is involved at all?

When you practise amputation of the pulp how do you overcome the soreness in the ends left in the roots to pressure when you try to fill the larger part of the canal and pulp chamber?

H. H. W.

ANSWER.—I certainly do still hold to the idea that exposed pulps can be safely capped. I think, however, that pulp capping as well as practically all other procedures in dentistry should be preceded by a careful consideration of the individual case in hand. I am thoroughly convinced that a degenerating vital pulp in certain individual cases can be a serious menace to the health, but I certainly am not convinced that all teeth containing cavities are necessarily possessed of infected, degenerating pulps that are a menace to the patient's health.

I believe that all decayed, infected dentine should be thoroughly removed and that where this is done, whether the pulp has been actually exposed or not by this removal, it is certainly feasible and good dentistry, in most cases, to cover the dentinal walls and exposed pulp (if it is a case of exposure) with a bland, soothing, non-irritating sedative cement and have that pulp return to normal. For, with the source of irritation and infection removed, there is no reason at all why a vigorous pulp, well supplied with block and lymphatic circulation, should not successfully eliminate a considerable amount of the products of infection. But on the other hand, if a tooth with vital pulp shows an area of condensing osteitis around the apex or gives a history of prolonged or chronic irritation, and especially if the patient exhibits general symptoms of any disease of possible focal infection origin, I should by all means advise the removal of such teeth.

In determining whether a given pulp is sufficiently normal to justify an effort to conserve it by a capping operation, we are guided largely by the x-ray in which we look principally for condensing osteitis and condition of the periodontal membrane and lamina dura, but we take into consideration also the history of the individual tooth and the vigor and recuperative power of the patient.

Regarding pulp amputation, this idea is, as you say, a degree if not several degrees worse than capping. I think it should be resorted to very rarely and then with great care and some trepidation. Where amputation is attempted, however, I have not found much difficulty with the soreness you refer to because of pressure of root filling material on the remaining ends of the amputated pulp. By the use of the sedative cement which I have so often recommended in either canal filling or pulp capping you are not liable to produce and maintain a harmful pressure because the sedative cement is applied while quite plastic (much more so in root canal filling than in pulp capping) and when pressure is applied in one spot it tends to rebound in another and thus relieve the pressure. It does not begin to set until you have entirely finished with its application and flooded it with moisture, or in cases where it is sealed in and moisture excluded it sets very slowly indeed.

In filling a canal it is best to work the sedative cement in as best you can with a smooth plugger and twist broach revolved backward, followed by the insertion of a blunt-ended guttapercha canal point which is slightly smaller than the canal and a little shorter than the length of the canal to be filled. This should be inserted with a gentle pumping motion carrying it a little deeper with each stroke until it has been seated to full length, but without any pressure to speak of at any time.

I did not in any instance you refer to mean to say that I do not advocate or approve of pulp extirpation at any time or in any case. What I did mean was that pulp conservation should be practised first, last and all the time where it is at all feasible. But where conservatism is not feasible or advisable and the question lies between pulp extirpation and tooth extraction, then each case should be considered as an individual. The importance of the individual tooth, if retained to the denture; the condition and history of the health of the individual patient; the operator's skill and ability as a root canal technician—each should be given careful consideration before a decision is reached. But after full consideration we are, in most cases at least, apt to conclude that it is better dentistry to perform a good root filling operation than to extract a tooth.—V. C. Smedley.

Editor Practical Hints:

A little girl of eight was brought to me. She has every appearance of being in good health, but is "finicky" about her eating, not caring for salads or milk. She suffered from mal-nutrition when a baby. Was breast-fed for four months and then put on a bottle, but was decidedly under-nourished over quite a long period. No exanthemata except measles, and that quite recently. Her deciduous molars and cuspids

are in place and look good, but the permanent incisors and six-year molars are terribly chalky looking and pitted, even the labial surfaces of the incisors presenting some pits. Is this a lack of calcium, and is there any way known now of making these teeth absorb or take up the missing elements? H. S. G.

ANSWER.—In relation to your little girl patient of eight, would say that the incisors and first molars were evidently affected by some change or interruption in metabolism at the time the enamel organ was doing its work, and while there is no record of exanthemata there must have been mal-nutrition of some type.

I believe that it is admitted at the present time that the enamel can be calcified after the eruption of teeth. One man claims he can do it from the external surface. I don't know of any check on his claims. I have had reports of some clinical results which would indicate that his claims have some basis in facts. It has been thought for many years by physicians that the calcium content of the bones of the body could be increased, and certainly the calcium of the blood stream can be increased, and if the blood is carrying more calcium it is fair to suppose that the bones and even the teeth would be changed. Several men have reported a decreasing tendency to caries by means of changing a child's diet and I believe it is generally accepted that the very things that your child won't eat are the things which she ought to eat. Exposure to sun has a tendency to increase the assimilation of calcium in the food, so if this is done and if the child is given calcium under the supervision of the family physician you may feel that you are doing everything that you can to change the calcium content of the enamel.—

G. R. WARNER.

Editor Practical Hints:

I have a case to solve, and I wonder if you will kindly help me out?

Female patient, about 45 years of age. Upper teeth extracted, using a local. In about two months patient returned for impression and same was taken with compound and relieved in the hard areas. In taking the impression the patient was not nauseated the least bit, but when the plate was put in she could not wear it without being "sick," as she expressed it. I removed so much of the plate that I spoiled it and had to take another impression. This time I took it with compound and plaster, taking special pains to relieve it so it would not press on the nerves, but my results were no better than before.

I feel that the patient is doing all that she can to overcome the trouble but her efforts are in vain.

Would greatly appreciate any help you may give me.

L. S. D.

ANSWER.—Be sure that you have a closed contact clear across the distal periphery of the plate. If the patient still gags, have her place a few dry tea leaves between her cheek and the upper border of the plate at such times as she feels a tendency to gag. The tanin seeping from the tea will usually relieve the gagging sensation.—V. C. SMEDLEY.

Bucharest, Roumania.

Editor Practical Hints:

I shall be very grateful for any advice you can give me in regard to the following case, which has just lately come under my care.

Girl born June 5, 1919, in Rangoon, Burma. Has had no infectious or contagious diseases. Subject to periodical attacks of bilious vomiting lasting 48 hours, which have been slightly less frequent during the last year. Also suffers from rheumatism and acidity; but latter not traceable to errors in diet since the diet is most carefully supervised. First acidity attack occurred at age of 11 months. She is not allowed many sweets and has been accustomed to regular hours for meals and sleep since birth.

A younger sister born in Bucharest, October 1922, suffers also from liver attacks and similar acidity spots.

This little patient (No. 1), presented with caries in nearly every temporary tooth; has been under continued dental treatment, but cavities seem to appear at very short intervals; the four 6-year molars have erupted in normal manner, no sign of caries, but lower central incisor only half erupted is already decayed.

Parents apparently perfectly healthy and every possible care given to the children. R. W.

ANSWER.—The fact that your six-year old girl suffers from rheumatism is indicative of a septic condition somewhere in the body. In a child of that age we think first of tonsils. If the tonsils and respiratory tract are free from infection we would then think of the teeth. If it is not the teeth it might be the intestinal tract or the kidneys. Children are quite subject to pyelitis. The gall bladder should also be considered. The matter of leutic inheritance ought not to be overlooked. The endocrine glands may not be functioning normally. All of the symptoms point to a deficiency in calcium. It might be suggested to the physician to administer solarized cod liver oil and calcium lactate. This treatment is especially indicated for the carious condition of the teeth and would be equally good for the younger sister.

The diet is of paramount importance but as you say this is being carefully and intelligently looked after I won't go into the details concerning it.

Sunshine is of the greatest importance. It assists materially in the absorption of calcium. Such children ought to be out in the sun most of the time with as scanty clothing as permissible.—G. R. WARNER.

Editor Practical Hints:

I have a patient who is 27 months old who has in the past year developed the habit of sucking his lower lip. The continued exercise of this habit has caused the protrusion of the upper teeth and has given him a very irregular bite.

Can you please tell me what could be done to break the child of this habit?

L. G. B.

ANSWER.—In reply to your question, Doctor A. H. Ketcham, Orthodontist, Denver, advises me that all of these sucking habits are difficult to break up, but he suggests that you try, and in most cases it proves effective, to hold the lips in their normal position by having the child close the lips normally and place two strips a quarter of an inch wide and three or four inches long of surgeons silk isinglass plaster from below the chin up over the lips and up beside the nose. If two strips are not enough, use more. This isinglass plaster softens readily and can be washed off with water.

Dr. Ketcham says that a few persistent cases will continue to suck the inner membrane of the lip regardless of the placing of these strips. It just occurs to me that in such a case it might be feasible to vulcanize a thin perpendicular plate of rubber to fit in front of the teeth and back of the lips with a horizontal extension coming out between the lips, the same to be retained by the above surgeon's plaster. Anything of this kind will probably make the child very unhappy for the time being but it should not have to be applied for very many days to break up the habit.—V. C. SMEDLEY.

Name, Please

If our friend from St. Louis who signed himself "L. D." will give us his name and address we will be glad to answer his letter.

CORRESPONDENCE

The following letter was received by Dr. William H. Wolff, 514 West End Avenue, New York, from one of his patients who was out of town.

Nov. 3, 1925

Dear FRIENDLY ENEMY:

Your little card received today. It made me feel quite blue. For really, Doc, I did not want to be the ruin of you.

You think that I've forgotten or perhaps I do not care. No, that is not the reason. At least, old pal, be fair.

If I were home, you know I'd roam quite bravely to your lair, and quickly step, with lots of pep, into the torture chair.

But you can see, it cannot be, as long as I'm away.

So towns I'll skip to end this trip, and you'll see me any day.

So burnish up your forceps, take exercise galore. For in ten days you'll hear my steps approach your outer door.

Sincerely,

A. B. C.

Fort Bragg, Calif.

Editor DENTAL DIGEST:

This was a surprise party, being a difficult tooth to extract. First

attempt to extract failed. Chiseled down process buccally and lingually. Note grooves in tooth below cement enamel junction.

R. A. CASE.

Estevan, Sask.

Editor DENTAL DIGEST:

I am enclosing a picture of apparently a fourth molar.

My patient, a lady aged thirty-eight, complained of severe headaches and pains around the ear. The third molar being in sight, I never thought of impaction. There was a large cavity in the third molar, but I couldn't see how the cavity would cause so much trouble,

especially as my patient said she had been troubled for three years. However, I decided to have the picture taken with the result as you see.

I have since extracted the third molar and all trouble has apparently disappeared.

I intend shortly to have another picture taken and shall possibly remove the impacted tooth, although I don't care to as long as my patient does not complain of pain or any discomfort.

C. J. ROBERTSON.

Ripley, Ohio.

Editor DENTAL DIGEST:

I am sending you a left upper second molar which I recently ex-

tracted. Rather an anomaly, don't you think?

F. D. WYLIE.

DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All questions and communications should be addressed to Elsie Pierce, care of THE DENTAL DIGEST, 220 West 42nd Street, New York City.

NOTE—HAVE YOU A BETTER WAY? HAVE YOU A TIME-SAVING SHORT CUT? DO YOU KNOW A "STUNT" THAT LIGHTENS THE WORK OR MAKES FOR EFFICIENCY IN THE OFFICE? IF SO, WRITE TO ELSIE PIERCE, CARE THE DENTAL DIGEST, 220 WEST 42ND ST., NEW YORK. YOU MAY HELP A NUMBER OF GIRLS WHO ARE JUST BEGINNERS—AND YOU KNOW HOW YOU NEEDED HELP DURING YOUR FIRST FEW MONTHS IN A DENTAL OFFICE. OR IF YOU NEED HELP NOW WRITE TO ELSIE PIERCE—SHE'LL HELP YOU.

I have great difficulty in keeping my hands looking nice, especially during the winter season. I should appreciate your telling me how to keep them soft and how to eradicate their toil-worn appearance. I am sure that many other dental assistants must experience the same trouble, since we necessarily must have our hands in water many times a day, as well as do more or less laboratory work. Any suggestions you will make will be greatly appreciated.

E. A., Philadelphia.

Well-kept hands should be the concern of all dental assistants, for they are the mark of refinement. Some skins unfortunately are hard to keep soft and smooth, but notwithstanding they should never be neglected and allowed to become red and rough and toil-worn in appearance.

Where one must wash one's hands many times a day, as in a dental office, not to speak of scrubbing instruments and very often other equipment, it is a good plan to have a bottle of pure lemon juice always at hand to be used in the rinsing water after each washing; if lemon juice is not available, use vinegar—a teaspoonful of either to a pint of water. The acid in the lemon juice or vinegar neutralizes the caustic agents in the soap and softens the skin. Avoid using laundry soaps. Unscented bath soap is preferable for all general use.

When working in the laboratory, wear gloves. Cotton gloves such as are used by mechanics may be purchased in the five-and-ten-cent stores. They last longer than rubber gloves, are far less expensive and do not require such care.

Home care of the hands is essential. Do not use strong laundry soaps or powders in performing such "domestic science" chores as fall to your lot. Use the unscented bath soaps. When sweeping, dusting or ironing, wear cotton gloves.

Well-kept fingernails add much to the appearance of the hands. Following the cleansing of the hands and nails, push back the cuticle with an orange-wood stick and file the nails to an even length. On retiring at night, bathe the hands with a good bleaching lotion and wear a pair of loose cotton gloves. A lotion made of the juice of two lemons, six ounces of glycerine and four or five drops of carbolic acid has been found beneficial. With regular attention and care your hands should become soft and attractive-looking, quite in keeping with your desires. During the winter season your care will have to be more constant and thorough. Do not go into the cold or wind unless the hands are well covered.

I am sending along a suggestion for the adjusting of rubber tubing over a metal part with little or no trouble. In our laboratory the Bunsen burner and blowpipe are connected to the gas outlets by means of rubber tubing. Whenever it had to be replaced, I had difficulty in stretching the ends of the tubing over the metal outlets and blowpipe nozzle; invariably it would tear.

By passing the end of the tubing quickly through a flame the rubber is softened sufficiently to permit its stretching without tearing. This procedure may be followed wherever rubber tubing has to be used.

F. B., New Jersey.

May we state here that we appreciate the interest shown by our reader in sending us a practical suggestion of something which has proved a help to her. This is the true spirit of helpfulness. We know that all our readers have helpful suggestions available which we should be glad to print so that all dental assistants might profit. Please send them along!

I should appreciate your telling me what to use as a solution in which to keep hypodermic needles.

S. S., Miss.

The following formula is one that has been found very satisfactory in the care of hypodermic needles and syringes:

Pure Carbolic Acid	15 Gr.
Soda Bicarbonate	15 Gr.
Glycerine	300 C.C.
Rose Water	200 C.C.

Keep the solution in a glass-stoppered bottle and use one part to two parts of distilled water. Keep the needles or syringes well covered with the solution, in a glass dish also covered. Rinse thoroughly before using.

Clinic Club

OF THE

EDUCATIONAL AND EFFICIENCY SOCIETY FOR DENTAL ASSISTANTS, FIRST DISTRICT, NEW YORK

The regular meeting of the Educational and Efficiency Clinic Club was held at the office of Dr. Hynard, 40 East 41st Street, New York City, on January 18, 1926. It was well attended, despite the inclement weather, and two very interesting lectures were given. The Section on Secretarial Assistance demonstrated, and there was also an excellent paper on the *Reception of Patients and Telephone Courtesy.*

Anna H. Sykora was the clinician, explaining the various systems of filing, bookkeeping, record-keeping, courtesy cards, follow-up systems and notifications contained in the clinic. There was also an exhibition of checks improperly made out and others properly written, and a very fine arrangement for keeping the magazines in the reception room neat and in good condition. The clinician brought out the most important points of the executive branch of dental assisting and showed the great possibilities for service that lie in this phase of the work.

Mae Zinman gave a very comprehensive talk on the reception of patients and telephone courtesy. She urged that courtesy always be the watchword of the dental assistant in her relations in the dental office, especially at the telephone. In answering the telephone she should listen attentively so that there need be no repetition or misunderstanding, taking the calls if possible and always assuming responsibility and taking the initiative in order not to distract the attention of the operator from the patient. In receiving visitors the assistant should ask the name and the nature of the business and, when possible, attend to the matter herself. Names of other patients should not be used before patients, and the utmost tact should be used in receiving each patient. The assistant should never become intimate with patients

and under no circumstances discuss personalities. As hostess in the office, she has the power to create the atmosphere and tone of the place, lending charm and graciousness. This is by far one of her most important duties. In closing, Miss Zinman reminded each member that through her unfailing courtesy and kind hospitality to each patient she can be a valuable asset in the office in maintaining the practice.

Agnes F. MacNeil, Acting Director of the Clinic Club, announced the preliminary plans for the clinic to be presented before the Dental Society of the State of New York at the annual meeting at the Hotel Astor, New York City, in May, 1926, and asked for the earnest co-operation of each member.

The Club meets regularly on the third Monday evening of each month, October to May, inclusive. All members of the Educational and Efficiency Society for Dental Assistants, New York, are eligible to join and are urged to do so.

EXTRACTIONS

No Literature can have a long continuance if not diversified with humor—ADDISON

"Well," said the driver, "we know we are on the right road now on our way home. There is the man in the ditch we ran over this morning."

No doubt a cynic is all right in his place, but he never goes there until he dies.

"What do you do with all these old dental chairs?"

"Ship 'em to Central Africa for thrones."

Don't be too hard on the modern girl. She knows as much about a needle as the modern young man knows about a bucksaw.

The head of the family again debates with himself the question of whether he would rather operate a snow shovel or a lawn mower.

(History Teacher)—And what did Hero say to Leander after he swam the Hellespont?

(The Kid)—You're all wet!

A woman went into a store to buy a hat for her husband. She couldn't remember the size that her hubby told her to get, but recalled that he wore size 16 collars, so she thought, proportionately speaking, he must wear a 22 hat.

"My schoolgirl complexion's gone,"
I heard the maiden say.
"A cyclone came along and blew
The drug store all away."

Mother washed Junior's suit, but it shrank so Junior couldn't get it on. So she then washed Junior and the suit fitted perfectly.

(Mr. Justwed)—What are these lace handkerchiefs doing in my dresser?

(Mrs. Justwed)—They're yours; I've laundered them myself.

No one has ever added up
The value of a smile
We know how much a dollar is
And how much is a mile
We know the distance to the sun
The size and weight of earth
But no one here can tell you just
How much a smile is worth.

(Teacher)—Now, Willie, you must prove to me that the earth is round.

(Willie)—Well, I didn't say it was, did I?

"Do you love me?"

"Madly."

"Would you die for me?"

"Er—no. Mine is an undying love."

A haughty lady had just purchased a postage stamp at a sub-station.

"Must I stick it on, myself?" she asked.

"Positively not, madam," replied the clerk. "It will accomplish more if you stick it on the letter."

Seeing a young lady to whom he had recently been introduced walking toward him and wishing to make an impression, he walked up to a swell automobile parked at the curb and said, "I'd love to take you for a drive, but I promised to meet my brother in fifteen minutes," and he put his foot on the running board.

She replied, "Indeed? I'd love to take you for a drive, only I detest liars."

She entered the car and drove off. It was her car!

Two colored gentlemen who had just reduced the population in a farmer's henroost were making a get-away.

"Laws, Mose," gasped Sam, "why you s'pose them flies follows us so close?"

"Keep gallopin," said Mose, "keep gallopin. Them ain't flies. Them's buckshot."

The young woman carefully wrote out her telegram and handed it across the counter.

"Seventy-five cents," said the clerk, giving the yellow slip a professional glance.

"Gracious!" the girl exclaimed. "Isn't that rather expensive?"

"Regular rate, miss," the clerk informed her.

"Seventy-five cents for only one word?" asked the girl.

"Yes, ma'am. But of course you can send nine words more without it costing you any more," he pointed out.

She thought over this for a moment.

"No," she finally decided. "I've said 'Yes' once. Ten of them would look like I was too anxious."

FUTURE EVENTS

THE MASSACHUSETTS BOARD OF DENTAL EXAMINERS will hold an examination for registration for both dentists and oral hygienists in the City of Boston, Mass., on March 15, 16, 17, 18, 1926. Full information, application blanks, etc., may be secured at the office of the Secretary, Room 146, State House, Boston. All applications must be filed at the office of the Secretary, at least ten days before the date set for said examination.

W. HENRY GRANT, *Secretary.*

The sixty-second annual meeting of the CONNECTICUT STATE DENTAL ASSOCIATION will be held in the Central High School, Bridgeport, April 8-10, 1926.

R. H. W. STRANG, *Chairman Publicity Committee,*
886 Main Street, Bridgeport, Conn.

NEW JERSEY STATE DENTAL SOCIETY

The fifty-sixth annual meeting of the New Jersey State Dental Society will be held at the Stacy-Trent Hotel, Trenton, N. J., April 14-17, 1926. The Society extends a cordial welcome to all ethical dentists.

PROGRAM

Essayists: Dr. Polk E. Akers, Chicago, Ill., *A New Simplified Method of Partial Denture Construction;* Dr. Percy R. Howe, Boston, Mass., *Diet in Relation to Health and Dentistry;* Dr. Fred D. Miller, Altoona, Pa., *The Displacement of Fractured Roots.*

Clinicians: Dr. Guy L. Haman, Reading, Pa., *Extracting for the General Practitioner;* Dr. Carlisle C. Bastian, New York, N. Y., *Porcelain Jacket Crowns and Removable Bridgework;* Dr. D. H. Baldwin, Peoria, Ill., *Gold Inlays with Porcelain Veneer;* Dr. M. T. Barrett, Philadelphia, Pa., *A Study of the Internal Anatomy of the Teeth;* Dr. M. J. Waas, Philadelphia, Pa., *Root Canal Technic;* Dr. Fred W. Lake, Boston, Mass., *Ultra-Violet Radiation in Oral Lesions;* Dr. John H. Gunter and Dr. LeRoy M. Ennis, Philadelphia, Pa., *Maxillary and Mandibular Cysts: X-Ray Interpretation.*

F. K. HEAZELTON, *Secretary,*
223 East Hanover St., Trenton, N. J.

CHANGE OF DATE

The forty-sixth annual convention of the TEXAS STATE DENTAL SOCIETY will be held at Wichita Falls, Texas, April 27-29, 1926. (Date changed from April 20-23.) The outstanding feature will consist of several clinic courses to be conducted by leading men of the profession.

J. G. FIFE, *Sec'y-Treas.*

The annual meeting of the OKLAHOMA STATE DENTAL SOCIETY will be held at Tulsa, April 27-30, 1926.

W. T. JACOBS, *President,*
Muskogee, Okla.

MOUTH HYGIENE CAMPAIGN OF ESSEX COUNTY, N. J.

All of the dental societies of Newark and vicinity—Central Dental Association, Clinical Club and Newark Dental Club—are planning a large Mouth Hygiene Campaign for the last week in April, 1926. This campaign is educational in character and addresses itself to the laity entirely.

We have hired an entire floor in the Y. W. C. A. in Newark for that week and will have an auditorium devoted to lectures and dental plays, and the rest of the floor for manufacturers' exhibits as well as educational exhibits, consisting of posters, models and charts.

The lecturers so far arranged for are Willis A. Sutton, Superintendent of Schools of Atlanta, Ga., Dr. J. Oppie McCall, New York, and Dr. E. V. McCollum of Johns Hopkins University. Each lecturer will occupy the entire program for one evening, will talk for about an hour and will be supplemented by a movie, a play or an open discussion.

Among the active features in preparation for the campaign will be a contest among high school students for the submission of a poster design for which we are offering $100.00 in cash as prizes. About 2,000 posters with the prize design will be distributed throughout the City of Newark and surrounding towns. For four weeks prior to the active campaign we will offer prizes in an essay contest on mouth hygiene among school children.

We will also have prizes offered for the prettiest teeth in Essex County, the best teeth among high school boys and girls and the best teeth in persons over sixty years of age. Each of the four newspapers in Newark is going to feature one of our contests as its own. We have hired a trained newspaper man as our Publicity Agent.

A few days before the date of the beginning of our campaign week we will distribute a vast number of dodgers announcing our campaign through the courtesy of such industrial agencies as insurance company agents and paying tellers of large industrial plants.

Every dentist in North Jersey will receive a pad of one hundred invitations which he will be asked to address personally, sign and mail to his own patients, endorsing the campaign and inviting them to meet him personally at the exhibits.

We take this opportunity of extending an invitation to all dentists to become acquainted with our work, to visit our campaign and to urge their patients to visit us as well.

A. WOLFSON, *Chairman,*
33 Washington St., East Orange, N. J.

THE ARKANSAS STATE DENTAL ASSOCIATION will hold its annual meeting on May 17-19, 1926, at the Marion Hotel, Little Rock, Arkansas. All ethical dentists are invited.

H. J. CRUME, *Secretary,*
Wilson Building, El Dorado, Arkansas.

DENTAL SOCIETY OF THE STATE OF NEW YORK

The fifty-eighth annual meeting of the Dental Society of the State of New York will be held at the Hotel Astor, New York City, May 19, 20, 21, 22, 1926. An exceedingly important and interesting program will be presented, the essayists and clinicians being men of national reputation.

The Society extends a cordial welcome to all members of the American Dental Association.

Educational Courses

Prior to the regular meeting of the Society, three days will be devoted to a series of Educational Courses on Monday, Tuesday and Wednesday, May 17, 18 and 19, 1926.

Through the courtesy of Columbia University and New York University, all the courses will be conducted in the college buildings of their Dental Schools, thus affording exceptional opportunity for effective teaching. The following courses and teachers have been finally selected:

Partial Denture Construction. Teachers: Henry W. Gillett, New York, *Wire Clasps;* George P. Phillips, Boston, *Nesbett Technique;* J. Galvin Woodworth, Chicago, *Continuous Clasps and Cast Clasps.*

Full Denture Construction. Teachers: F. M. Hight, Houston, Texas, *Articulation;* James P. Ruyl, New York, *Esthetics;* Russell W. Tench, New York, *Impressions.*

Fixed Bridgework. Teachers: James Kendall Burgess, New York, *Pinledge Attachments;* M. Diamond, New York, *Carving Teeth;* T. W. Maves, Cleveland, *Cavity Preparation and Inlay Abutments.*

Removable Bridgework. Teachers: Charles F. Ash, New York, *Split Bar Attachments;* L. W. Doxtater, New York, *Peeso and Other Attachments;* Samuel Millard, New York, *Chayes Attachments.*

Porcelain Work. Teachers: Milton Cohen, New York, *Carving and Staining;* William A. Squires, New York, *Shoulder Jacket Crowns;* George A. Thompson, Chicago, *Shoulderless Jacket Crowns.*

Root Canal Therapy. Teachers: Harry B. Johnston, Atlanta, Ga., *Johnston Improved Callahan Technique;* M. L. Rhein, New York, *Rhein Technique;* R. Ottolengui, New York, *Radiography.*

Periodontia. Teachers: John Oppie McCall, Arthur Merritt and Paul Stillman, all of New York, *Periodontic Methods for the General Practitioner.*

Orthodontia. Teachers: Herbert Pullen, Buffalo, and J. Lowe Young, New York, *Theories and Practical Work Within the Realm of the General Practitioner.*

Scientific Removal of Teeth. Teachers (all from New York): M. I. Shamberg, *Impactions;* Douglas B. Parker, *Elevator Technique;* Francis McCaffrey, *Forceps Technique;* Theodor Blum, *Removal of Infected Teeth and Eradication of Foci of Infection;* Charles Vetter, *Nitrous Oxide and Oxygen;* Joseph Schroff, *Pathological Lesions of Interest to Those Who Remove Teeth;* Henry Sage Dunning, *Accidents and Complications in the Removal of Teeth.*

Local Anesthesia. Teachers: Leo Stern and Joseph Joffer, New York. Other teachers will be added if the classes are so large as to require it. The evening sessions will be open to all registered in the Exodontia and Anesthesia Courses.

The courses are not restricted to New York State members.

A pamphlet giving details of all the courses and terms will be ready for mailing about February 15, 1926. For a copy of this pamphlet address Edward Kennedy, Chairman Committee on Educational Courses, 347 Fifth Avenue, New York City.

A. P. Burkhart, *Secretary,*
57 East Genesee St., Auburn, N. Y.

THE DENTAL HYGIENISTS' ASSOCIATION OF THE STATE OF NEW YORK will hold its sixth annual meeting at Hotel Astor, New York, N. Y., Thursday, Friday, Saturday, May 20, 21, 22, 1926. There will be clinics on Thursday and Friday from 9 a. m. to 12 m.; literary meetings, Thursday and Friday, from 2 p. m. to 5 p. m.; and business meeting, Saturday at 9:30 a. m. A cordial invitation is extended to all ethical dentists and hygienists to attend the sessions and clinics.

CHRISTINE REDEFER, *President,*
18 East 41st Street, New York, N. Y.
HELEN R. DONEHUE, *Secretary,*
Bloomingdale Hospital, White Plains, N. Y.

THE INDIANA STATE BOARD OF DENTAL EXAMINERS will hold its next examination at the State House, Indianapolis, beginning Monday morning, June 14, 1926.

It is of utmost importance that applicants confer early with this office for information relative to this examination, as applications properly made out and signed, photographs and all credentials must be in the hands of the Secretary-Treasurer at least one week before examination.

For further information and application, address

J. M. HALE, *Sec'y-Treas.,*
Mt. Vernon, Indiana.

STATE BOARD OF REGISTRATION AND EXAMINATION IN DENTISTRY OF NEW JERSEY

The State Board of Registration and Examination in Dentistry of New Jersey will hold its regular examinations at Trenton, N. J., commencing June 28, 1926, and continuing for five (5) days thereafter. License fee, $25.00; re-examination fee, $10.00.

Practical tests required: Insertion of an approximal gold filling with the approximating tooth in position, compound approximal amalgam filling and a silicate filling; candidate must furnish his own patient. Taking of impression, bite, selection of teeth, articulation, trial plate; candidate must furnish his own patient. Practical examination in mouth diagnosis.

Attention is directed to the following quotation from the dental law of New Jersey: "Applicant shall present to said Board a certificate from the Commissioner of Education of this State, showing that before entering a dental college he or she had obtained an academic education consisting of a four-year course of study in an approved high school or the equivalent thereof."

In accordance with this law the Secretary will issue application blanks only upon presentation of the required certificate from the Commissioner of Education, State House, Trenton, New Jersey.

Candidates are to be given the privilege of appearing at four examinations during a period of three years. Upon failure to be eligible for a license after four examinations, they shall be required to take the entire examination over; and upon further failure to secure a license after four more examinations during a period of three years, they shall be ineligible for further examination.

Applications must be filed, complete, ten days before the date of the examinations.

Address all communications for further particulars to

JOHN C. FORSYTH, *Secretary,*
148 West State St., Trenton, N. J.

THE ASHEVILLE (N. C.) MID-SUMMER CLINIC for the year 1926 will be held on August 16-18, at Kenilworth Inn. Write for information to

DR. B. F. HALL, *Treasurer,*
209 Haywood Building, Asheville, N. C.

The next meeting of the AMERICAN DENTAL ASSISTANTS ASSOCIATION will be held in Philadelphia, Pa., August 19-21, 1926. Further details will appear at a later date.

JULIETTE A. SOUTHARD, *President,*
174 West 96th Street, New York, N. Y.

The next meeting of the AMERICAN DENTAL ASSISTANTS ASSOCIATION will be held at the same time as the American Dental Association in Philadelphia, Pa., August 23-27, 1926.

JULIETTE A. SOUTHARD, *President,*
174 West 96th Street, New York, N. Y.

The next meeting of the AMERICAN DENTAL HYGIENISTS ASSOCIATION will be held in conjunction with the American Dental Association in Philadelphia, Pa., August 23-28, 1926.

Dental Hygienists make your plans now to attend this meeting.

LEONA M. MITCHELL, *Secretary,*
State Department of Health,
Harrisburg, Pa.

THE DENTAL HYGIENISTS ASSOCIATION OF NEW YORK CITY holds its regular monthly meetings on the first Tuesday of each month, May to October, at the Academy of Medicine, 17 West 43d Street, New York City, at 8 p. m.

At each meeting interesting addresses and papers are presented by prominent members of the profession as well as by members of the Association.

A cordial invitation is extended to the members of the dental profession and dental hygienists to attend these meetings. Dental hygienists who are not members of the Association are urged to join.

THE COMMITTEE FOR AMERICA OF THE INTERNATIONAL STOMATOLOGICAL ASSOCIATION which is now making the preparations for the participation in the International Stomatological Congress to take place in Paris in 1927 consists of the following: Chairman, Alfred J. Asgis, Sc.B., D.D.S.; Treasurer, G. Reese Satterlee, M.A., M.D.; Recorder, E. B. Hardisty, A.B., C.F.A., C.H.N.; *Scientific Research,* E. C. Rosenow, M. D.; *Clinical Stomatology,* Joseph Colt Bloodgood, M.D.; *Education and Legislation,* Oliver T. Osborne, M.A., M.D., F.A.C.P.; *Public Health and Lay Education,* Wm. G. Shemeley, M.D.; *History of Stomatology,* Geo. W. Mackenzie, M.A., M.D., F.A.C.S.; *Bibliography and Nomenclature,* Anthony Bassler, M.D., F.A.C.P.